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THE AMERICAN JOURNAL OF CLINICAL MEDICINE

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The American Journal of
CLINICAL MEDICINE
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Vol. 28, No. 5 May, 1921

Treatment of Hayfever

WITH the month of May, we believe that the time has come to prepare our hayfever patients for the time of their ordeal, or to prevent its occurrence if this can be brought about at all. Our experiences during the last few years suggest very strongly that it is rarely possible to protect a hayfever "habitué" against his affliction by only one season's treatment. Usually that can be accomplished only in the course of two or three seasons in succession. Just how much care is necessary after that to keep these patients immune, we have no means of knowing. The fact is, that we know pitifully little of hayfever and that it behooves us all to study this distressing affliction intensively and from season to season so that, in course of time, methods and procedures may be evolved that will prove of benefit to the greatest possible number of patients.

The preventive treatment of hayfever patients will have to take into consideration various points which have been discussed in an article elsewhere in this issue of CLINICAL MEDICINE (p. 298). First of all, there is the systematic treatment through which, after a suitable clean-out, the house is to be put in order, as it were. That is to say, any evidences of autointoxication, of retention, of insufficient functioning on the part of any of the eliminative organs are to be acted upon and the functional irregularities corrected. It goes without saying that bowels and kidney functioning are to be restored to normal or maintained in that condition; that the circulatory and respiratory organs are to be kept in perfect order and that the upper respiratory passages must be placed in such a condition as to be able to withstand injury through contaminated dust. One of the outstanding features in connection with hayfever patients is acidosis. This must be regulated by a suitable dietetic régime and may also be controlled by means of calcium chloride, calcined magnesia, or milk of magnesia.

Many of these patients are deficient in

regard to the hemoglobin content of the blood. This deficiency should be corrected by means of a course of intramuscular injections of iron citrate with sodium cacodylate and nuclein. A tendency to coryza should be counteracted by a few doses of a proper bacterial vaccine or by local treatment of the nasal passages. Efforts should be made to accustom the patient to deep and easy respirations so as to ventilate fully even the tiniest recesses of the respiratory passages.

Altogether, in order to prepare a hay-fever patient properly and to protect him against his enemy, he must be put into as perfect a physiological condition as is possible.

As to the specific immunization by means of pollen vaccine, we refer to the article that we have already mentioned. This problem is discussed there at length and has found, we hope, some useful elucidation.

The best use of a journal is to print the largest practical amount of important truth—truth which tends to make mankind wiser, and thus happier.—Horace Greeley.

ALKALOIDS VERSUS CRUDE MIXTURES

When, almost thirty years ago, the more general employment of alkaloids and glucosides in place of cruder galenic plant products was suggested and advocated energetically as a notable advance in drug therapeutics, the innovators in this therapeutic field were criticized sharply and ridiculed mercilessly. All sorts of things were said about them and they were all but called quacks and unethical pretenders.

Still, these same innovators kept right on talking alkaloids, although they applied the principle so as to cover all possible methods of therapeutics in the direction of bringing about more positive and definite methods of treatment. It was insisted upon especially (and this is of enormous importance) that no treatment should ever be prescribed for any disease but that, invariably, the patient himself should be treated for what ails him. Very naturally, definite remedies with sharply defined and certain actions called for careful searching out of the indications and for exact medication. In short, physicians who employ alkaloidal and other positive drugs usually are careful diagnosticians and painstaking prescribers.

There is no need to hark back to all the unkind things that have been said about the "alkaloidal cranks." It is enough to know that an ever increasing number of physicians resorted to these exact and satisfactory drug preparations and that more and more practitioners gave up the uncertain galenic remedial agents—which are uncertain both as to composition and as to keeping qualities.

However, it naturally causes us, who always have been steadfast in advocating definite and precise methods of treatment, a good deal of satisfaction to read an editorial expression in the *Journal of the American Medical Association* (Apr. 2, p. 933) acknowledging that "few substances occupy a more important position in the therapeutic equipment of the physician than do the alkaloids." The same editorial speaks of "the importance of escaping from dependence on mixtures of changing composition as immediate remedial agents and of turning toward isolated, measurable products as definite therapeutic responses are desired."

Recognition may come late and, yet, thirty years is not such a terribly long time to wait for it. It is, however, satisfactory and gratifying to read such a splendid endorsement of the position that CLINICAL MEDICINE has maintained and defended ever since its first issue, more than twenty-seven years ago.

SWAT THE FLY

This is the time for swatting the dangerous house fly before the breeding season begins or at its earliest commencement, in order to hold the ground gained by previous antifly campaigns.

The unusually mild winter presages a season that will be favorable to the development of the house-fly swarms that are such active agents in the spread of disease germs. The winter "hang-over" flies have already made their appearance in considerable numbers. The Merchants' Association of New York, through its committee on pollution and sewerage, has inaugurated a particularly vigorous campaign to be stimulated this year.

In view of the danger that is very real,

of importation of contagious diseases from Europe, no effort should be spared to keep the house fly under control. The criminal tendencies of this little pest have been demonstrated too conclusively than that we could neglect this very potent element of danger in the dissemination of infectious diseases. It is therefore decidedly necessary that physicians should urge their patients and their acquaintances to be diligent in the destruction of the flies and, no less, in the prevention of their breeding. This, of course, refers particularly to the proper disposal of garbage, to the avoiding of leaving food remnants and other substances lying around where flies may feed and breed. In short, living flies should be killed because, when dead, they lay no eggs. Further, no opportunity should be given for those that escape the swatter to multiply.

If the whole world were put into one scale, and my mother into the other, the world would kick the beam.—Lord Langdale.

MOTHER'S DAY

We reproduce the following editorial from the May, 1920, issue (p. 297).

On May 8, 1914, the following resolution, passed by the Senate and House of Representatives of the United States of America, was approved.

"Whereas, The service rendered the United States by the American mother is the greatest source of the country's strength and inspiration; and,

"Whereas, We honor ourselves and the mothers of America when we do anything to give emphasis to the home as the fountain head of the state; and,

"Whereas, The American mother is doing so much for the home, the moral uplift and religion, hence so much for good government and humanity; therefore, be it

"Resolved, by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States is hereby authorized and requested to issue a proclamation calling upon the government officials to display the United States flag on all government buildings, and the people of the United States to display at their homes or other suitable places on the second Sunday in May as a public expression of our love and reverence for the mothers of our country."

Sec. 2. That the second Sunday in May shall hereafter be designated and known as Mother's Day, and it shall be the duty of the President to request its observance as provided for in this resolution.

In accordance with this custom, which had received its impetus, early in 1908, through the efforts of Miss Anna Jarvis, of Philadelphia, the second Sunday of this present month of May will, like its predecessors, be dedicated to the mothers of America. It is customary that those whose mothers still are living wear red carnations in their honor; while those whose mothers have passed on wear white carnations in honor of their memory.

We are not going to attempt a panegyric on our mothers. Everybody who is fortunate enough to have, or to have had, what the boys might call a "regular mother," will pronounce one for himself. Nevertheless, it was a suitable action on the part of congress to set aside this one day out of the three hundred and sixty-five of the year to do particular honor to the mothers of the country.

We are wishful to call attention to this occasion and, perchance, to remind some brother doctor who otherwise might have forgotten. Especially would we encourage them to remind their boys, those in the heedless and forgetful years, that they remember their mothers by a donation of flowers, be it ever so small. Many times, it may be a pleasing surprise that gives great happiness to Mother, while, to forget the occasion, may cause disappointment and heartache.

Let's remember Mother's Day, May 8.

THE DIAGNOSIS OF EARLY CANCER

In his instructive article on the control of cancer (p. 293.), Doctor Greenough declares that, at its inception, cancer is a local process. Regarding the justice of this teaching, opinions differ. So experienced a clinician as Dr. L. Duncan Bulkley, for instance, asserts that, in its beginning, cancer disease (which might be called "carcinosis") is a general systemic condition of constitutional origin, in which there occur certain derangements of the metabolism and which often is characterized by acidosis. Doctor Bulkley is quite emphatic in declaring that cancer is not primarily a surgical disease and that, if the impending danger of a localized cancerous lesion is recognized sufficiently early, this danger may be averted.

It seems to us that the advice given us by

Doctor Greenough and that expressed by Doctor Bulkley may well be combined in the sense that physicians should constantly keep in mind the possibility of constitutional disturbances that may lead to malignant disease if they occur in persons of late middle life and beyond, if the disturbances are persistent and (in the case of localized lesions, such as moles, warts, ulcers, and so forth) if they do not yield readily to proper treatment.

Whether cancer, at its beginning, is a surgical disease or not, the important point is, always, to keep in mind the possibility of its occurrence and always to guard against metabolic derangements in people, say, past forty years of age; also, to correct them promptly and persistently when they do occur.

EXPLORATORY OPERATION FOR CANCER

The advice given by Doctor Greenough (p. 296) in his excellent article on the control of cancer as to the usefulness of an exploratory operation must not be misunderstood. Doctor Greenough says that such an operation offers the patient his greatest chance of cure. "By this means, a tumor can be explored under direct observation, and, if necessary, a portion of the tissue may be removed *for immediate examination* (italics ours—ED.) by frozen section under the microscope. In accordance with the facts thus established, the operation can be completed and the patient given his best opportunity for cure."

This advice, it will be observed, does not mean that the microscopical examination of the excised tissue should be deferred to a convenient time. It is generally recognized that a cutting operation facilitates extension through the lymph-paths and thus opens the way to metastases. Exploratory excision, as it has been practiced formerly, is now justly condemned by experienced surgeons. The operation may be undertaken only if an examination of the abnormal tissue can be done immediately and if, in case that it is positive, the tumor or other lesion can be removed forthwith while the patient is under the anesthetic.

PRESCRIBING BEER

Recent newspaper reports indicate that, under a new ruling of the Federal Office for the Enforcement of Prohibition, physicians are to be permitted to prescribe beer, more or less generously, in cases where they believe it to be advisable.

It is a question whether this decision is a beginning of an attempt to lessen the difficulties in the way of the legitimate medicinal use of alcoholic beverages or whether it offers a sort of a back-door through which the people may secure a mild alcoholic drink for household use.

No matter what this interpretation is based upon, it seems to us that physicians have cause to resent the ruling. It puts upon medical men the onus of an increasing consumption of malted alcoholic drinks. It makes it more difficult for physicians to refuse their numerous "friends" who already pester the life out of them for prescriptions for "hootch." It sanctions the more or less loose utilization of the special license. In short, it is a ruling that does not appeal to us at all as being dictated by wise and careful considerations.

Those physicians who honestly believe that alcoholics are sometimes urgently needed and that their place can not be filled by any other drug, will never resort to beer in emergencies because, then, it is good whisky or brandy that is called for. The idea of opening the lid in favor of beer for alleged medicinal purposes seems to us highly objectionable. Indeed, the more we think of it, the more we are convinced that the ruling is unwise, from the viewpoint of the physician.

If beer is to be given free for more general consumption, well and good. Only, do not let physicians be made to bear the responsibility. They have quite enough of that already.

True merit, like a river, the deeper it is, the less noise it makes.—Lord Halifax.

UTOPIANS AND UNCONSCIOUS HUMORISTS

The Englishman, Wells, has done some notable work as a writer of books, in which many utopian ideas of his are sensationally exploited. But, he is not a man to be trusted with the management of any business: that is clear. Not that he is dishonest or would take even as much as a shilling that did not belong to him. Not that. It is simply that his imagination runs away with him, which makes him in a word a very impractical fellow, a man in the world but not

of it, a resident but not a citizen. As a business manager, even in the smallest way, we know, he must sooner or later end up in the bankruptcy courts.

Now, this same Wells recently took it upon himself to describe the present economic plight of Russia and how to remedy it. He was in Russia two weeks, hardly long enough to learn how a moujik amuses himself or a drosky-driver gets his vodka, now that this beverage is contraband. Yet, here he is, giving us advice soberly as a statesman and economist.

He first tells us in his book that Russia under sovietism is in a very bad way. The cities have been reduced to squalor. Industry has broken down. Scarcely a man in the land has a change of underwear. The incentive to achieve is gone. Misery is everywhere. Still, says Wells, the leaders in the movement are honest. They mean to do wonderful things. Therefore, it is the duty of other nations to help them generously, to send them food and supplies so that they may succeed in the project upon which they are so arduously embarked. And, of course, since we of the United States alone are in position to give thus, we are the ones to do it!

It is well that we have a sense of humor for just such occasions as this; very little of it in this instance suffices to provoke the broadest smile, if not indeed uproarious laughter. Because they are honest in their convictions, we are asked to succor this deluded band who, while hurrahing for liberty, have made of the individual a galley slave and a pilgarlic without any acquisition, desirable or otherwise, other than a growth of beard and a crop of vermin.

The proposition becomes the more amusing as we reflect on it. It lends itself as good working material for a hundred and one comedies. Any project that is honestly conceived, says Wells, is worthy of support. All right, then. Suppose we grant this and proceed to action. We visit the asylums. Insane persons meet us with the strangest and most impossible of schemes. Still, these persons are honest, sincere, firm in the belief that they are on the right track to wonderful achievements.

And what have they? One poor paretic sees himself an Arab chieftain robbed of his harem and of half of Africa. With a dozen regiments, he can recover these stolen goods. The man is honest. Why not, then, accommodate him? A second lunatic in his barred doorway weeps and swears alternately; it is plain to see that he is terribly in earnest. In the good old days, he was a publican, had a bar that was well patronized, and he profited immensely by the free spending of those who drank. The prohibitionists ruined him. Vengeful, now, he purposes to herd them all aboard boats with bottoms which, by means of an ingenious device, can be made to open in the middle and, opening outward, deliver them all to the fishes in the deepest part of the Pacific. Why not help him carry out this splendid idea? He needs only a fleet of a hundred or two boats for the purpose. And so on. The world in and out of the asylums abounds with plans of this sort, patiently worked out by people who are crazy but perfectly honest.

We are told that the socialized or panel system of medical practice, now causing so much grief in England, was devised without consulting the doctors. We can easily believe that. It probably was the Wellses and similar visionaries, if not persons of worse intent, who delivered the profession into this muddle.

Nothing has such power to broaden the mind as the ability to investigate systematically and truly all that comes under thy observation in life.—Marcus Aurelius.

THE MENSTRUATING WOMAN

The *Medical Record* for February 19 (p. 317) abstracts an article (*Wien. klin. Woch.*, May 20, 1920) in which Professor Schick expresses the opinion that a menstruating woman may be a veritable upas tree. His attention was first attracted to the subject on the occasion of receiving ten fresh, long-stemmed roses, which he had requested a female servant to place in water. On the very next morning, the roses had largely withered, the petals having dropped on the table. Greatly surprised, he had summoned the servant to illuminate the mystery. She said that she had known that the roses would wither for, when she was unwell, this phenomenon was always in evidence. Greatly astounded, Schick began to experiment. The woman, along with a nonmenstruating control, was sent to the author's gardener who cut off for each an anemone, a white chrysanthemum, and a yellow helianthus. The women simply held the flowers in their hands and went to the

clinic. Upon their arrival, the flowers in the hand of the menstruating woman had begun to wither and were hanging their heads. The time elapsed was but ten minutes. The blighting process was complete at the end of twenty-four hours, the petals having fallen off at eighteen hours. The flowers handled by the control subject were as fresh as ever at the end of forty-eight hours. The menstruation in this experiment was in its first day only. On the following day, the tests were repeated, and flowers held in the hand of the menstruating woman showed some alteration in three minutes after she had taken them. The change consisted of a progressive drying, followed in a few hours by discoloration. The anemones were especially sensitive, and the chrysanthemums showed the greatest resistance. On the third day of menstruation, the pernicious effects were but slight; on the fourth day they had vanished, and during the entire intermenstrual period the woman showed not a trace of this mysterious power.

Schick next learned that there is a popular belief in certain strata that menstruating women have the power of withering freshly cut flowers, although many refuse to believe it and look upon it as a mere superstition. In wineries, menstruating women have been forbidden to enter, and this proscription even extends to orchards, for, these women are not allowed to climb into fruit trees when in bloom and even later, lest the fruit crop should spoil. Study of this problem through the ages brings out astounding facts and beliefs. The menstruating one in an orchard can cause the insects to drop from the trees; and even in classical times there were tales of the use of partially exposed women for expelling the cantharis beetle from the trees.

The author, after extended research, was able to show that the injurious substance, menotoxin, circulates in the blood but not in the serum; in all probability it is in the blood corpuscles or adherents to them. It must be volatile and escape by the skin or lungs. Schick thinks that we are on the threshold of a great discovery, this potent volatile poison being a menace not only to the preservation of certain organic substances, but even to growing flowers. It also seems toxic to insects. In regard to unicellular organisms, it can both inhibit and accelerate the proliferation of yeast. The menotoxin is regarded by Schick as something which the female organism must get rid of, and this supports the prevalent view that menstruation is a depurative phenomenon.

We are reminded that this socalled superstition, that menstruating women exert an unfavorable influence in some directions, is by no means new. The present writer remembers having been told by a young English woman that her maid at home, a Devonshire girl, refused to whip cream or the whites of eggs while she was menstruating. She asserted that the eggs would not whip and the cream would sour. Indeed, it appears that, in Devonshire, menstruating women may not attend to the milking or do the dairy work.

Gould and Pyle ("Anomalies and Curiosities of Medicine") quote Pliny to the effect that "on the approach of a woman in this state (namely, while menstruating) must become sour, seeds which are touched by her become sterile, grass withers away, garden plants are parched up and the fruit will fall from the tree beneath which she sits. According to Fleming, menstrual blood was believed to be so powerful that the mere touch of a menstruating woman would render vines and all kinds of fruit trees sterile. Aristotle said that the very look of a menstruating woman would take the polish out of a mirror, and the next person looking in it would be bewitched. The Mosaic law considered a woman during menstruation unclean, and dispensary physicians know that the easiest way to obtain information concerning themselves from uneducated Jewish women is, to ask them when they were last "unclean."

The fact that Schick demonstrated the existence of a menotoxin is of great interest, and its isolation and careful study may, it can readily be seen, lead to important discoveries.

Though reading and conversation may furnish us with many ideas of men and things, yet it is our own meditation must form our judgment.—Dr. I. Watts.

ADVANCED PUBLIC-HEALTH ACTIVITIES IN OREGON

In the February issue of CLINICAL MEDICINE (p. 80), we referred briefly to a work undertaken by the citizens of Oregon, privately, but which was of great importance. This work comprised an investigation into

the numbers and conditions of the misfits, the down and outers of the community, referring to the dependents, the delinquents and the mentally unfit. Through it, indubitable benefit will accrue to future generations in so far as it will lead ultimately to the prevention of much mismating. That is to say, the work will logically carry with it the attempt to prevent the mentally and otherwise deficient (especially if they are dependents) from procreating.

In the *Social Hygiene Bulletin* for March, a new step toward manifest progress is recorded from Oregon. Legislation is sought in the Oregon State Legislature that has the purpose of safeguarding marriage. The main features of a bill introduced by Senator Smith provide that any person desiring to obtain a marriage license from the county clerk must first undergo both a mental and physical examination at the hands of some regularly licensed physician. Should one or both of such applicants fail to pass the health and mental test, they shall not be permitted to marry unless both are rendered sterile.

To this, an amendment was proposed by the health and sanitation committee of the legislature, demanding a Wassermann test for both male and female applicants for marriage licenses and a fee of $25.00 therefor.

This proposed law goes further than the one passed in 1913 and now in force, in so far as it requires physical examination of the women contemplating marriage as well as from the men who, under the existing law, have to furnish a certificate from a duly authorized physician declaring their freedom from contagious or infectious venereal disease.

Incidentally, the maximum fee for the physician making an examination is limited by the existing law to $2.50. The proposed new law, as already mentioned, calls for a fee of $25.00 for the Wassermann test. This financial consideration shows a commendable appreciation of the work demanded from the examining physician.

We are told that public opinion in Oregon strongly favors a bill to protect marriage. Even the old law has a distinct educational value though its defects are admitted, and it is hoped that, under the new law that is to be passed, further safeguards are thrown around this basic institution.

A further proof of the public spirit and the public decency of the people of Oregon may be found in another item in the *Social Hygiene Bulletin* referred to, according to which Oregon led all states with a rate of only 0.59 percent of her men found to have a venereal disease on arriving in camp, after the selective-draft examination. Moreover, as far as measures are enforced for combating venereal diseases, Portland, Oregon, stands first among 444 cities included in a survey made by the U. S. Public Health Service. This favorable showing must be credited to the campaign carried on by the Oregon social hygiene society.

It is impossible to estimate the economic and moral gains accruing to the state through the activities of this society. A fair inference from the proved results, however, would be, that the state and its citizens have been repaid many times over for their expenditures in the field of social hygiene. The benefits will appear in increased production in industry, fewer cases of blindness and insanity to be cared for in public institutions, and a healthier public with saner views on the problems of life.

In regard to fatigue, there are evidently two distinct varieties—simple physical fatigue and mental fatigue combined with physical fatigue. This latter form often requires days to overcome, while pure physical fatigue is quickly overcome.—Carolus M. Cobb.

THE DOCTOR AND HIS AUTOMOBILE

It is an accepted fact that virtually every physician now owns an automobile. There are about 125,000 doctors in active practice in the United States. These questions have been asked:

1. "What cars are these doctors most interested in?"
2. "What automobiles are they using, and what tires do they prefer?"
3. "What percentage of doctors are now in the market for cars?"

No authentic figures have been available, answering these questions, until a recent investigation by CLINICAL MEDICINE, which we now report.

Five thousand doctors, from every state in the Union, were sent questionaries. The list was not hand-picked. The names were taken at random from large cities, towns, and country villages.

Up to this writing, over one thousand replies have been received. Using the first thousand answers as a fair average, some

very interesting data have been gathered and are here set forth.

The first question, relating to the subject now being discussed, was this:—

1—"What automobile do you consider the best for the physician?"

Many physicians, in answering this question, stipulated one make of car for the country, and another type for the city, or one style for bad roads, and another for good. It was quite evident that the doctor is called upon, in the course of his professional work, to travel over all kinds of roads, and under all sorts of conditions, both summer and winter. He uses his car constantly. Upkeep, repairs, and depreciation are consequently big items. The average annual mileage made by physicians exceeds that of any other class, with the possible exception of the traveling salesman. These considerations have doubtless influenced the replies, which are as follows:

1. 535 doctors mentioned the Ford car.
2. 165 preferred the Dodge car.
3. 162 mentions of the Buick appeared.
4. 52 doctors feel that the Franklin is the best for their use.

In addition to the leaders mentioned, the following cars are mentioned in the order given:—Cadillac, 27; Studebaker, 20; Reo, 18; Chevrolet, 18; Overland, 17; Hupmobile, 15; Hudson, 12; Oldsmobile, 11; Nash, 10; Maxwell, 9; Willys-Knight, 7; Paige, 5; Scripps-Booth, 4; Chamlers, 3; Chandler, 2; Haynes, 2; Columbia, 2; Olds, 2; Electric, 2; Liberty, 1; Locomobile, 1; Peerless, 1; Marmon, 1; Velie, 1; Cleveland, 1; Templar, 1; Stutz, 1; Jordon, 1; Cole, 1; and Apperson, 1.

These figures give an idea, at least, of what cars the doctors are using. The averages would doubtless, be maintained on a larger canvass of the entire profession.

Should the questionaries be confined to the large cities alone, the percentages as to types of cars would, no doubt, be somewhat altered. In our opinion, however, the four cars mentioned as leaders—The Ford, Dodge, Buick, and Franklin, are probably more generally used by the entire profession than other makes. This, it would seem, is in the course of natural selection, that is, no special effort, as far as we know, has been made by any automobile firm to advertise their cars intensively to doctors unless it might possibly be the Franklin. In speaking of advertising, we refer specifically to medical journal advertising, which is the most effective method, we believe, of reaching physicians intimately and successfully.

Up to this time, practically no automobile concern in the country has found it necessary to make any intensive or competitive solicitation for new business by classes. For this reason, the wonderfully fertile field for cultivation, the medical profession, has apparently been neglected quite generally by the automobile trade, otherwise the results as shown above might have been different.

A most interesting feature of this investigation shows that over two hundred, or about 20 percent of the doctors, state in reply to question No. 8, "Are you contemplating the purchase of a car?" that they are now in the market for a new car, or thinking of buying one soon.

This is a remarkable percentage of replacements. On this basis, the 125,000 doctors will buy 25,000 new cars this spring representing in value some *twenty-five million dollars.* Surely, this amount of business is worth going after. It is thought, in some circles, that a number of progressive automobile manufacturers are now planning to go out actively for new business, this spring, in this field which has, as yet, remained uncultivated.

Now, regarding automobile tires. This question appeared on our questionary—"What tires do you consider the best?" Over one thousand doctors have replied to this question, as set forth below. It is interesting to note that the three tires which have been advertised, to some extent, in medical journals, lead all others in the doctor's estimation.

243 doctors mentioned the Goodyear.
94 doctors mentioned the Goodyear Cords.
86 doctors mentioned the Goodrich.
25 doctors mentioned the Goodrich Cords.
65 doctors mentioned the U. S.
39 doctors mentioned the U. S. Cord.
63 doctors mentioned the Kelley-Springfield.
54 doctors mentioned the Firestone.
42 doctors mentioned the Fisk.
12 doctors mentioned the Fisk Cord.

Fifty-six doctors state that any standard make of tire would suit them, thus showing their confidence in standards which have been established by extensive advertising.

In addition to the leaders shown above, the following makes of tires were mentioned:—Michelin, 28; Racine, 26; Miller, 17; Lee, 15; Hood, 12; Pennsylvania, 8;

Oldfield, 6; Federal, 8; Mason, 4; Ajax, 7; Portage, 4; Gates, 3; Brunswick, 2; Kokomo, 3. It is apparent from these figures that there is a splendid field for the promotion of tires among doctors. More tire replacements are made by the medical profession, by reason of constant summer and winter mileage, over good and bad roads, than by any other class or group of car owners.

It has been well said that "There's no hard times coming, it's only the easy times going." Now that the manufacturers of automobiles, tires and accessories are facing a "fighter's market," an excellent target for intensive fire is the medical profession, who are the largest logical users of cars in any field and who are eager for more and better information through the channel of their own professoinal journals.

It has been said that the difference between riding a horse and riding a hobby is, that one can get off the horse.—Carolus M. Cobb.

THALASSOTHERAPEUTICS

The Advantages of Maritime Climate

In a recent issue of the *Therapeutische Halbmonatshefte* (Jan. 1, 1921), Dr. C. Häberlin discusses his clinical experiences in the course of twenty years which he spent at Wyk-Föhr, a small island in the North Sea, west of the Danish peninsula. Children who constantly "take cold" and are frequently afflicted with bronchial catarrh accompanied by fever do remarkably well on the seashore. If they spend the summer there, they lose their susceptibility to catarrh, even though (or because?—Ed.) they spend much time in the open air. They may acquire a slight coryza but this no longer leads to bronchitis. In a great many cases, this freedom from "cold" continues through the next winter and spring. The children develop better and their health experiences lasting improvement.

Doctor Häberlin has records of some twelve thousand children whom he observed for several years. Concerning five thousand of them, he has detailed data referring to observation periods of from two to six years. From these records, he claims permanent curative results in from eighty to ninety percent of the children.

In asthmatic children, in whom usually diffuse skin affections are observed and who are almost invariably neuropathic, the maritime climate is frequently of benefit. However, such a beneficial result becomes manifest many times only in the second month. Indeed, during the first four weeks, aggravations of the conditions are frequently observed. Permanent curative results can be secured only through a prolonged course of treatment at the seashore which may require as much as three years.

Of one hundred distinctly asthmatic children, close to one-half were free from asthma while at Wyk-Föhr. About one-third experienced relief. Unfortunately, the lasting results are infrequent, amounting to barely ten percent. Still, Doctor Häberlin believes that repeated sojourn at the seashore should be of benefit in about seventy percent of the cases.

It is in the children called "scrofulous" that the maritime climate is of particular benefit. This we may say, by the way, has been the experience of the French physicians who have sent "scrofulous" children to the seashore for many years. In Doctor Häberlin's experience, the scrofulous affections of skin, eyes, ears, nose, pharynx, frequently are benefitted although usually local and general treatment is necessary in addition to the climatic advantages. Adenoid vegetations, Doctor Häberlin found, do not retrogress spontaneously and will have to be removed operatively.

In diseases of the bones and joints, the maritime climate has long been recognized as advantageous. Of course, the benefits are referable to the climatic conditions only in part. A very important factor is the prolonged and continued exposure of sunlight which is so important an agent in the high altitudes of the Alps, for instance. Rachitis also is amenable to surprising improvement at the seashore and Doctor Häberlin recommends warmly that children afflicted with rickets should be given the benefit of ocean climate.

THE PURITAN, SPECIES AMERICANUS

Some species of the louse are more depredatory and annoying than others. Likewise, distinctions are obvious among puritans. The home species, for example, is certainly more crabbed than his English relative. His nose is longer, his frown deeper, his aversion to worldly pleasure more loudly voiced. There is less of toler-

ance in his makeup, and more trickery, which enables him to succeed where the other fails. His thumb is bony hard and broad; at least it seems so, as we squirm and wriggle underneath it.

His greatest victory to date, one which entitles him to the first rank among puritans, was that of forcing abstinence upon us all whether we liked it or not; we may no longer have our wine or pilsner. The flush of this triumph is still upon him. A glitter is in his eyes. Zeal fills him. He sees more to be done; his ambition is overweening. Unlike the head louse who confines his operations to a single part and is content therewith, the puritan, species *Americanus,* longs, not only to do things thoroughly, but to cover the world. He is rather like that larger, more enterprising creature known as the pediculus corporis by entymologists and physicians.

Already we know what to expect and, if he is fated to succeed further, the prospect is surely a dismal one. Wine is not all we are to be deprived of; oh no! Tobacco is next on the list; its use, too, will be illegalized within the present decade, if the well-laid plans of the puritanus americanus work out as he hopes. After tobacco on his prohibitory list, comes coffee; that dear old breakfast cup is to be taken from us also, if he has his way. We are not jesting when we write this; already the coffee growers and importers have pooled their interests for an effort to offset the destructive propaganda set off by our puritan. A series of advertisements under title of "The Case For Coffee" has been running in our journal this past year. Certain foods, too, which for years have had an acknowledged place on our tables, will ultimately be denied us; for example, because the puritan has uncovered the fact that they are in effect aphrodisiac, we are almost sure to be deprived of soy beans and oatmeal and three-minute eggs. Indeed, our diet will undergo at his hands a thorough overhauling, with the view to depressing, by this as well as other means, spermogenesis and sexual desire as it now obtains in the normal adult.

Nor is prohibition to stop with ordering what we shall eat and drink. We are going to be told what clothes we may and may not wear and this will be especially hard on our women, who, of course, may no longer count on short skirts, transparent hose or low-necked waists. Matters of dress are even now receiving attention. A measure to restrain women from wearing short skirts, even on the stage, was considered in Wisconsin, some years ago. While no action was taken at that time, we may look for similar legislation this year or next. Only recently, a bill to prohibit the wearing of high heels in Utah was introduced in the state assembly, while, in California, the senate was asked to vote favorably on an act making it criminal for a man to wear trousers provided with hip pockets.

And, there you are. The puritanus americanus will have us all living as he wishes us to live. The books we may read will be censored even more rigorously than now; for that matter, he has already done so much to discourage writers and publishers that we are producing no literature worth while in this country. As for our music, although near the bottom of the prohibitions, we may expect nothing better at the last than that it will be deleted of every sensuous note.

It will be seen what a large program the puritanus americanus has and what we are in for. To take all the joy out of life, will require many years of hard work on his part but he means to do his duty. His final and glorious accomplishment, after silencing the song birds as did the monks of old, will be, to stretch a huge tarpaulin over the sun. For, blue laws, even though so numerous as to fill a hundred quarto volumes, will fail if the orb be permitted to shine. A little sunshine goes a long way, especially in the cold gray winter, to make us happy, and, therefore, the light-obstructing tarpaulin.

And, now, aside: what ails us as a nation that we allow all this to go on? We are supposed to be a liberty-loving people and yet we part with our personal rights so easily.

Leading Artieles

The Control of Cancer

By ROBERT B. GREENOUGH, M. D., Boston, Massachusetts

EDITORIAL COMMENT.—The control of cancer is one of the most burning questions of the day—as far as physicians are concerned. While the work of the last generation has been successful in so far as it diminished greatly the morbidity as well as the mortality of infectious and epidemic diseases and as it lowered the general mortality of the first three decades, that of middle and later life is actually on the increase. This is due in great part to the increased frequency of cancer. It is urgently necessary that physicians all over the country interest themselves intensively in the work that is being done by the American Society for the Control of Cancer whose headquarters are at 25 W. 45th St., New York City.

PHYSICIANS, nurses and social workers whose duties bring them in daily contact with disease need no extended argument to convince them that cancer is one of the most frequent and most relentless causes of distress with which humanity is cursed. It is estimated that in 1919, about 85,000 people died, of cancer, in the United States alone. Since the disease attacks especially those beyond the middle period of life, we find that one person out of every eleven healthy individuals over forty years of age is doomed to die of cancer. Or, to put it in another way, we may say that we feel grave anxiety if one of our friends or relatives comes down with typhoid fever and, yet, the chance of death in a person already sick with typhoid is no greater than the chance that a healthy individual of forty years has of dying of cancer. When a condition such as this exists, we are forced to consider whether something cannot be done to relieve the situation.

The most superficial investigation of the problem shows that ignorance is the first and most important element in the problem as it is in so many other causes of human misery. The public is ignorant both in regard to the early symptoms of the disease and as to the methods best suited to its cure. They do not know that cancer in its early stages can be, and is, cured by operation. They do not realize that delay is fatal, that it is the advanced and neglected cases of cancer which show a recurrence of the disease after operation, thus raising doubt as to the efficacy of operative treatment. It is an unfortunate fact that it is the failures and not the successful results of operation that are known to the public. Women who have been cured of cancer by an amputation of the breast or a removal of the uterus conceal the fact to the best of their ability; but, if the operation is unsuccessful, the further course of the disease discloses the nature of the trouble and the ultimate cause of death.

The physician is ignorant when it comes to the recognition of the early symptoms of the disease, though he is all too familiar with the symptoms of the advanced and hopeless case, and the surgeons and laboratory investigators of cancer are ignorant of its cause and of any effective method of treatment of the disease other than its radical and complete removal by operation.

Popular Interest Stimulated

During the past decade, a pronounced change of attitude has taken place on the part of the public toward the health of the community. The federal and the state health departments have seen the value of an informed community for maintaining the public health, and organizations have been established to aid the federal and state officials in spreading information which is of value, and combating the gross ignorance in regard to disease which has existed, and does still exist, in many classes of society.

Of these organizations, the American Society for the Control of Cancer has taken up a most important work. This society is composed of surgeons, physicians and laymen, from all over the country, united in a national organization, with headquarters in New York. State, county and city committees have been established. Material has been prepared for publication, in the lay press, in women's magazines, and in special bulletins; circulars and handbooks written in terms which are readily understood by laymen and designed to spread the knowledge of the fundamental facts in regard to cancer. Public lectures have been given in many places, and the cooperation of the women's clubs, churches, and charitable organizations, the Y. M. C. A. and the Red Cross has been secured.

In this article, we are concerned particularly with the part which can be taken by physicians and nurses in the campaign to control cancer. There are four lines of activity open to us in the fight to improve the situation, and work along any of these lines may confidently be expected to yield results:

1.—We can educate the public in regard to the early symptoms of cancer, and its successful treatment by operation in early cases.
2.—We may conduct a campaign among physicians for the earlier recognition of the disease.
3.—We can promote investigations leading to the more effective treatment of cancer when it is discovered.
4.—We can promote investigations of the disease itself, its causes, its manner of development, and of methods other than those now known to us for its relief.

1.—Education of the Public.

Until the patient presents himself to a physician, no steps in the way of treatment of his disease can be undertaken. For this reason, we may say that the education of the public is the first and most important step. We must consider, first, the information which is to be given to the public and, second, the means by which this can best be done.

In a recent study of five hundred and nineteen cases of cancer at the Massachusetts General Hospital, by Simmons and Daland, less than one-half of the cases entering the surgical wards of the hospital reached there early enough for an attempt to be made to cure by radical operation. When the reason for this delay was studied, it was found that, on an average, 5.4 months elapsed from the time the patient first noticed symptoms of his disease before he even consulted a physician. While these figures indicate a slight improvement over those published for Pennsylvania, by Wainwright, and for New York, by Gibson, the lapse of time is still far too great, and a material shortening of this period of delay is the first and most essential object to be attained.

Up to the present time, the best and most certain cure for cancer is, the radical surgical removal of the disease. Other methods of treatment, like radium and x-ray, are occasionally to be preferred to operation in cancer of a mild and superficial character, but these exceptions only go to prove the rule that the best means modern medicine has to offer for the cure of cancer is a surgical operation. No method of treatment with serums, vaccines, drugs, diets, caustic pastes or secret "cancer cures" has been found to compare in effectiveness with the operative treatment of cancer. The records of the great surgical clinics of the country show two facts which are of the greatest importance in this connection: In the first place, they show that a definite and certain percentage of cases of cancer in all of its most important situations is cured by radical operation; and, in the second place, that the percentage of cures by operation varies in cancer of different organs, according to the ability of the physician to recognize the early symptoms of the disease and to apply the operative treatment in the early stages of its development.

It is our desire to convince the public, therefore, of the following facts: (1) *That cancer is curable;* (2) *that the best cure for cancer is operation; and* (3) *that, to be successful, operation must be performed in the early and local stage of the disease.*

These facts are fundamental and the public will come to appreciate them in time for, they are the basic truths on which the cancer problem rests. We must further teach the public, however, to recognize in their own persons the symptoms of early cancer. The recognition of early cancer is a difficult matter even for the best trained physicians. We must, therefore, try to bring the patient to his physician as soon as the patient recognizes any symptoms of disease which are even *suspicious* of cancerous origin. We must teach that any persistent lump, or sore, or abnormal discharge, espe-

cially if it contain blood, is worthy of investigation and should never be neglected. Above all, we must convince the public that pain is a symptom of no significance in the early stages of this disease. Most of the more serious forms of cancer are absolutely painless in their early and curable stages. If we wait for pain to drive the patient to his physician, we wait too long to hope for cure of the disease.

Some Popular Misconceptions.

There are other misapprehensions on the part of the public in regard to cancer which need to be corrected: Cancer is not contagious, and there is no danger of the disease being communicated from one individual to another. Yet, many times, the ungrounded fear of such contagion leads to neglect of patients who are deserving of most constant and devoted attendance in the late stages of the diesase.

Heredity is also a cause of anxiety in certain families, and it has long been believed that heredity plays a part in the incidence of cancer. As a fact, however, there is little evidence to support this belief. Although we can not say that heredity, like contagion, is of no significance, we can at least say that a cancerous family history need occasion anxiety only to the extent that everyone of cancer age should be anxious, namely, to be on guard to detect the earliest symptoms of the disease and to procure early and effective treatment.

One other fact needs to be impressed upon the public, and that is, that rubbing, rough handling and massage of cancer leads to a rapid spread of the disease. This fact has been well established, both in the clinics and by experiments on animals. Yet, many patients present themselves for treatment only after a course of massage of the primary tumor, which has served only to lead to the more rapid spread of the disease.

In the education of the public, the physician must play an important part. The physician has the confidence of his own patients, and, while articles in the daily press, and circulars and lectures may rouse the interest of the individual, it is his own physician to whom he turns for corroboration. The information that the physician can give has a personal value which far outweighs the abstract and impersonal words of the most clearly written article. It should be the aim of the physician to so instruct the families which come under his care that no opportunity for neglect of symptoms suspicious of cancer may exist.

In the same way, the nurse holds a position in the community that gives her special opportunities to correct misapprehensions and to give advice which will lead to the early recognition and prompt treatment of cases of cancer. Especially is this true in the case of women who may be reluctant to submit to the necessary physical examination or who have the dread of a surgical operation which has come down to us from the days before anesthetics and antiseptics, when an operation was indeed a remedy almost as bad as the disease. Every nurse knows that, with modern methods, this dread is quite unjustified.

It is of the utmost importance that the nurses who graduate from our hospitals should carry away with them accurate information in regard to this disease. They should know that cancer can be cured by operation; that operation must be done early to be effective, and that delay in the recognition of the disease is the one most important factor in its mortality. They should know the importance of the investigation of any persistent lump, or sore, or abnormal discharge. They should recognize the fact that pain is not a symptom of early cancer, and that absence of pain is a cause for anxiety rather than an indication that the symptoms may be neglected.

2.—Education of the Medical Profession.

By means of the instruction of the public, we may confidently hope to bring the patient to his physician in the early stages of his disease. In doing this, however, we add enormously to the difficulties of the practising physician. The symptoms of cancer of any organ, as descibed in the textbooks of surgery, are the symptoms of well established cancer, often of cancer which has already extended beyond the possibility of radical cure.

At its inception, cancer is a local process. It begins in a group of cells of microscopic proportions which cut loose from their point of origin and begin to invade the tissues in their immediate vicinity. While there is great variation in the rapidity of growth in different forms of cancer, this invasion of surrounding tissues progresses little by little, until finally more remote areas are involved in the disease. From these more remote areas, extension again takes place, until finally the central and vital organs of

the body are affected and the patient succumbs. During the microscopic stage of the process, cancer gives no symptoms whatever. When it first reaches proportions such that a tumor or ulceration is produced, the disease has, of necessity, been in existence for a considerable period of time and there is danger that invasion of the surrounding tissues has already taken place. Even at this stage, however, the symptoms are not always conclusive and the lump or sore resembles lumps or sores of other origin so closely as in many cases to be indistinguishable. The physician is thus placed in a difficult position. He may recognize the possibility of the existence of cancer but be unable to make a positive diagnosis. If he waits for the further development of symptoms which will establish the diagnosis beyond doubt, he will permit the patient to lose the opportunity for the radical cure of the disease in its early stages to which every patient should be entitled. As a fact, it is this policy of delay in waiting for positive symptoms which, next to the ignorance of the public, is responsible for the frightful and unnecessary mortality that now exists.

Delay of Operative Treatment Dangerous.

In the cases of cancer at the Massachusetts General Hospital, to which I have referred, an average of three months' delay took place between the patient's first consultation with a physician and the physician's advice to submit to operation. There is only one solution to this difficulty and that is, the exploratory operation. Under present conditions, and in hospitals properly equipped to handle cases of this character, the exploratory operation offers the patient his greatest chance of cure. By this means, a tumor can be explored under direct observation, and, if necessary, a portion of the tissue may be removed for immediate examination by frozen section under the microscope. In accordance with the facts thus established, the operation can be completed and the patient given his best opportunity for cure.

Unfortunately, not all cases which fail of early diagnosis by the physician can be attributed to the fact that the disease was in such an early stage that its symptoms were not conclusive. Too often it happens that the possible significance of the symptoms complained of by the patient is not appreciated by the physician in busy practice. Again, the reluctance of patients to submit to a thorough examination, especially in the case of women, leads to the postponement or neglect of a simple digital examination of the rectum; and, far too frequently, the existence of a tumor of the breast or of the cervix uteri remains undiscovered only because of the lack of an examination by the physician in charge of the case.

In the attempt to raise the standards in regard to the early diagnosis of cancer, a pamphlet has been prepared by the American Society for the Control of Cancer which has had a wide circulation in this country. In this pamphlet have been assembled the main facts in regard to the differential diagnosis of cancer in its many locations. This pamphlet has been reprinted and issued by the health commissions of several states, and every registered physician in Massachusetts, Colorado and Florida, has received a copy.

In response to the representations of the Cancer Society, the state medical societies have taken up this work and have appointed permanent committees on cancer in many different states. Under these committees, meetings of county and district societies have been organized to consider the cancer problem in general, and its local application. In several other states, as well as in Massachusetts, a free diagnosis service is maintained by the state health authorities, to the end that every patient may, without expense, secure the pathological examination of tissue removed at operation in cases of suspected cancer.

While these various measures have undoubtedly improved the situation, much more remains to be accomplished. Postgraduate courses in our medical schools are now available where physicians who so desire can be given opportunity to familiarize themselves with the latest advances in the diagnosis and treatment of cancer in the more important hospitals: and the establishment of hospitals especially for cancer cases gives opportunity for the collection and study of groups of cases of cancer of different organs, which contribute greatly to our knowledge of the disease.

An interesting experiment has been carried through successfully in Scranton, Pennsylvania. A "cancer day" was designated, and physicians for fifty miles around brought into Scranton the patients for whom they desired free consultation. Operative and demonstration clinics were giv-

en in the hospitals, meetings for physicians were arranged in the afternoon, and meetings for the public in the evening. By such activities as this, a great stimulus to the eventual control of cancer can be brought about.

There is one respect in which the physician, and the nurse, as well, can be of special assistance in the campaign to diminish the mortality of cancer. Although we do not know the cause of cancer, there is one condition which crops up again and again as a forerunner of the disease, and that is, some form of chronic irritation. We recognize that certain chronic diseases, not in themselves alarming, assume a greater degree of importance on this account, because they have been found to develop into cancer in many instances. These diseases are called "precancerous" conditions; they include such simple and common diseases as warts, pigmented moles, fissures and sores of a chronic character, lacerations of the cervix of the uterus, due to childbirth; leukoplakia of the tongue and mouth, senile keratosis of the exposed skin, and many similar processes. Many socalled benign tumors have also the propensity to develop into cancer with the lapse of time. In the prophylaxis of cancer, these lesions should receive treatment either by excision or destruction by appropriate means before cancer has opportunity to develop, and by this one measure a great number of cases of cancer could undoubtedly be prevented. By recognizing the importance of the precancerous diseases, the physician and the nurse can contribute greatly to diminish the mortality of cancer.

3.—Investigation of the Treatment of Cancer.

While the first steps must be taken by the education of the public and of the practising physicians of the country, much remains to be done by the surgeons who are called upon to treat these cases. The operations for cancer in its more common situations have been virtually standardized in the great clinics of the world; and, while the methods may differ slightly in different places, the general principles of operation remain the same. This, however, applies only to the operable cases. The more advanced cases which are beyond the possibility of the standard radical operation provide an abundant field for further work on the part of the surgeon in attacking this disease. In this field, the combination of operative measures with other agencies, such as x-ray and radium, is yielding promising results, and it is probable that the next ten years will see great advances in extending the percentage of operability by making it possible to operate successfully on cases now considered too far advanced to permit even the attempt at cure.

4.—Investigation of the Cause of Cancer

Finally, the institutions devoted to cancer investigation will continue to study this disease. While the cause of cancer and its cure by methods other than by operation are yet unknown, there will be work to do for these highly trained investigators. The study of the transplantable tumors of animals has already supplied us with information of great value in the treatment of human cases.

The study of the chemistry of cancer is, as yet, in its infancy, and the newly developed field of biophysics promises to give us an insight into the nature of the phenomena of life such as we have never had before. The development of the use of the radiations of radium and of the x-ray in the treatment of cancer has been extraordinary, and the end is not yet. Already, apparatus has been constructed which increases the efficiency of the x-rays to nearly, if not quite, the power of the most penetrating rays of radium. Thus, a cheap and abundant radiation will soon be made available so that no case of cancer need go without treatment by the methods best adapted to use in the individual case.

Summary

To sum up briefly: The present situation in regard to cancer is appalling. To improve it, we must carry on a campaign of education. The public must learn that operation in the early stages can and does cure the disease, and that delay is fatal. They must be taught the early and suspicious symptoms of this disease. The physician must strive to recognize the disease in its early stages, and the surgeons and laboratory workers must continue the search for curative measures more effective than those we already have. By vigorous prosecution of these measures, we may confidently hope to secure a control of cancer which we certainly do not hold today.

Treatment of Hayfever

By H. J. ACHARD, M. D., Chicago, Illinois

EDITORIAL COMMENT.—The many problems connected with hayfever are gaining an ever increasing importance. In this issue of CLINICAL MEDICINE, *there are three articles dealing with the subject; all of them from different viewpoints. The climatic treatment is simple and usually efficient. Unfortunately, it is available for but a relatively small number of patients. The drug treatment as outlined by Doctor Encstad (p. 300) covers what we conceive to be an essential part of the indications. Further points that need close attention are outlined in the subjoined article which, we hope, will give rise to a brisk discussion that is bound to be of use.*

THE literature dealing with the treatment of hayfever, both therapeutic and preventive, has grown to enormous proportion, and, as is usual in all poorly understood affections, the methods of treatment and the remedial agents advocated are numerous. From a study of the literature and also from my clinical experience, it has been impressed upon my mind that the treatment of hayfever is quite complicated and that the hayfever victims should be under observation from early spring until late fall, for several years in succession. During this time, they should receive preparatory or immunizing treatment and also such palliative and symptomatic attention as may be required in the individual case.

The Preparatory Treatment

The preparatory treatment calls for attention to various points. It is not only immunizing, by means of hypodermic injections of pollen vaccine, but it must be, no less, systemic; for the reason that the susceptibility to pollen-protein intoxication probably stands in relation to a more or less constant autointoxication usually associated with acidosis. The first thing to do, therefore, is to have a complete uranalysis made in order to determine the status of the body chemistry. The results of this examination must be acted upon, autointoxication being counteracted by suitable eliminative and antitoxic remedies; while an existing acidosis is corrected by means of calcium chloride in solution (10 grains to the dose, well diluted, three times daily, after meals) or with milk of magnesia or calcined magnesia (light) sufficient to produce two large mushy stools a day.

The diet should be regulated in such a way as to avoid the formation of toxic products and to assure a complete breaking up and assimilation of the ingested food which should be readily digestible.

Furthermore, it goes without saying that irregularities in the upper respiratory tract, such as usually predispose to "colds" and to coryza, and associated evils which complicate an attack of hayfever so distressingly must be corrected so as to assure easy ventilation through these air passages.

As to the immunization with pollen vaccine, it is a question in my mind whether this has to be as strictly specific as some authors assert. My experience suggests that a very effective immunizing response can be obtained by means of ragweed pollen vaccine which seems to enable the organism to defend itself also against the parenteral absorption of other pollen proteins; a sort of group-reaction. In most of my patients, last year, I made use of only the ragweed polen, and with highly satisfactory results.

Hypersensitization to be Avoided

There is, however, the question of oversensitization which is pointed out very interestingly, for instance, by Dr. Will Walter (*Jour. A. M. A.*, Sept. 4, 1920, p. 670) who has observed that sensitization to ragweed was *increased* with many of the inoculated subjects after the first few days of attack; that these patients suffered more during the height of the attack, when the massive pollen contact occurred, than those who did not have the preliminary treatment. Walter reports, moreover, the case of a man who experienced a profound anaphylactic shock, after a final immunizing dose, five days after the attack had been expected but had not arrived. This question of anaphylatoxic poisoning is especially interesting to me since it reminds me of a similar observation during the season of 1919.

Among several hayfever patients whom

I was treating during that summer, there was a married woman, twenty-eight years old, who had had hayfever during the last eleven years. It seemed to become progressively worse each season. This patient reported to me only late in July, 1919, when her hayfever already was fully developed; and I had no opportunity to attempt a prophylactic immunization.

The first therapeutic dose of ragweed-pollen vaccine, about ¼ mil, was tolerated well. About ten minutes after the second dose, of ½ mil, (the patient informed me, later) she experienced hot flashes to the face, dizziness, obstruction of the nasal passages, lacrimation; in fact, intensified hayfever symptoms, together with cardiac distress and dyspnea. This happened while the patient was returning home in her car.

The next dose was given one week later, and the patient was made to remain in the office for observation; fortunately so, because, within four minutes, she had an attack like the preceding one and which was somewhat alarming. It yielded to rest and a small dose of nitroglycerin (gr. 1-250). In consequence of this experience, the attempt at immunization was abandoned for that season.

Last year (1920), I commenced the immunization of this patient, as of most of my other patients, early in May; commencing with 1-10 mil of ragweed-pollen vaccine, at weekly intervals, and increasing by 1-10 mil amounts from week to week; unless a reaction was reported, in which case I repeated the prior dose. In the case of this particular patient, I followed the suggestion given by Besredka, a few years ago, for the prevention of serum disease; that is to say, I injected one drop or even less and then waited half an hour before introducing the balance of the dose. Invariably, the skin reaction would become evident, after the first injection, within from two to five minutes.

During the period of treatment (1920), there were no symptoms whatever of anaphylatoxic poisoning in this patient. While, ordinarily, her hayfever was well established and quite severe, already early in July, she remained comfortable until the middle of August when she developed an attack that persisted until early in September. However, the severity of this attack was very much less than it had been for many years, and the bad periods were very few and of brief duration.

This year (1921), I put this patient on "alkaline" treatment early in February. For the last few weeks (I am writing the middle of April), she has received tonic doses (intramuscular) of iron citrate sodium cacodylate and nuclein; her pollen immunization will be commenced during the first week in May.

As to the Mechanism of Immunization

In the article cited, Doctor Walter refers to the fact that, in the case of pollen protein, the phenomena of desensitization do not follow the usual course of the bacterial protein so far as symptoms go. That is very natural. It is readily understood if we remember that the bacteria in the invaded human organism are living organisms and are actively resisting the defensive forces that may be mobilized with a view to their destruction (aggressins, Bail).

I am not aware of any experiments having been made tending to show aggressin-like substances being developed by the ragweed pollen, or other pollen, that invades the upper respiratory passages and causes hayfever; nor would we expect such an active resistance against the defensive mechanism of the body in this instance.

In active immunization, whether by means of a bacterial or a pollen protein, the question of dosage is not as important as it is in the passive form; except in so far as unduly large doses should be avoided. The passive-immunizing agent acts quantitatively, its benefits depending upon the antibodies actually present in the immune serum and ceasing when these are exhausted (unless the organic resistance has, meanwhile, recovered sufficiently to be mobilized on its own account). The active-immunizing agent, on the contrary, does not introduce any ready-formed antibodies but stimulates the afflicted organism to do this work for itself. Active immunization, then, is a sort of "training" of the defensive tissue cells, as is explained ingeniously in Petruschky's "Grundriss." Consequently, the dose of a vaccine or a bacterin need be only just large enough to elicit an immunizing response; and should not be larger than that. Nor should it be repeated

too frequently, lest the power of reaction be lost entirely through overstimulation.

It has been my experience that intervals of only five days (or even less) between immunizing doses, whether of a bacterial protein or of plant pollen, are too short and do not offer any advantage while they may prove injurious. The hayfever patients whom I immunized last season (1920), were treated at eight-day intervals; with only one exception, in the case of a patient who received a few doses five days apart, most of her treatments, though, being given at weekly intervals. It seems to me that the negative phase (Wright), or a similar occurrence, is hardly recovered from sufficiently after only five days to permit a further stimulation of the defensive apparatus, and that harm may accrue from too-frequent repetition of the immunizing dose. In many instances, I find it advisable to inject my doses not oftener than once in two, three or four weeks (speaking of bacterial proteins), and even less often; and I am certain that I secure a better immunizing response.

Plans for this Season

During this season, I intend to space my intervals between immunizing doses even more widely. In all probability, I shall give these doses not more frequently than once in two weeks, depending somewhat upon the degree and severity of the reactions. It is my belief that marked and, still more, excessive reactions are exceedingly prone to produce a hypersensitiveness and thus to negate any good effects that might have been secured from the immunization. In those patients who have thus been hypersensitized, Walter's observation may hold true that inoculated subjects suffer more during the height of the attack; also, it is they who, if at all, are subject to anaphalatoxic seizures.

I believe that it is sufficient and, indeed, wise to regulate the immunizing dose in such a manner as to give rise only to mild reaction which is to be permitted to run its course entirely and after which the immunizing response on the part of the organism is to be established fully before a further dose of vaccine is administered. In this manner, I expect to keep my patients free from hypersensitization and to protect them during this coming season against the acquirement of hayfever.

It goes without saying that, in the event that hayfever actually making its appearance, and also in case of coryza or other forms of "colds," treatment should be prompt, energetic and persistent. Everything must be done to protect the sensitive nasal mucous membrane which is exceedingly irritable and to restore a normal circulation in it. This may be brought about in part by a few doses of a suitable bacterial vaccine; also, the administration of atropine, adrenal substance and similar remedies may be of service. The discussion of these phases of the treatment would require a separate paper.

Altogether, the truth is that, as yet, we know far too little about hayfever, or, better, about its successful prevention and management. Years of careful study will be required before we shall be able to solve this interesting problem and to relieve the great misery to which its victims are subjected year after year.

Hayfever and Its Treatment

By J. E. ENCSTAD, M. D., Grand Forks, North Dakota

SINCE Dunbar reported the results of his repeated investigations on hayfever, little of value has been added to the literature on this subject.

In his examinations, Dunbar used horses and rabbits, both species reacting to the toxine of the pollen; specific antibodies were produced which tended to disappear after a period of six months or so.

He found that repeated injections caused distinct anaphylactic reactions with all the symptoms, such as shortness of breath, weakened pulse, and other asthmatic phenomena. He also noted a marked binding

of the complement in rabbits immune against the pollen.

In the human being, the absorption of the vegetable protein, in the form of pollen, is chiefly through the mucous membrane of the respiratory organs, especially the mucous membrane of the nose. In the circulation, the protein is split up into two groups of substances, one toxic and the other non-toxic, the former producing hypersensitiveness or sensitization through the overproduction of protolysins and through the reassimilation of the toxic molecules.

This sensitization may be produced by infinitesimal doses. Investigators have found that a thousandth part of 1 milligram of a certain proteid material will, in some cases, produce marked reaction in the human organism.

Considering the ductless glands of the adrenal system as being the chief organs in the metabolic phenomena of the animal system, any deviation from or inhibition of this function, either through disease or lessened activity, or old age, gives rise to an impairment or disturbance of their functions, often with retention or faulty elimination, or a too-rapid breaking up of the foreign proteid, vegetable as well as animal, which may have entered the system in a complex form, into simpler and more harmful ones and which may poison it.

It is well known that a large number of hayfever sufferers have a poorly developed thyroid-adrenal system, and there may be, therefore, a deficiency of thyroid material tending to a too-rapid sensitization, with an excess of protolysins and antibodies that all are apt to react rapidly by breaking up any new proteid material and setting the toxic molecules free, thus causing anaphylactic shock or hayfever, so called.

Establishing passive immunity by the administration of thyroid material, a number of times a day, as a prophylactic measure, or if an attack of pollenization has taken place, amelioration of the distressing reactions may reasonably be assured. I have found of most benefit to administer an equivalent of 4 grains of thyroid[1] twice a day as a prophylactic, and as a curative four tablets a day.

To further prevent pollenization, mechanical measures, such as atomizing the mucous membranes a number of times a day with bland mineral oil, will often be found of great benefit. The mucous membrane has to a marked degree the function of absorbing proteid material in soluble form and the oil, by forming a film, will mechanically prevent the soluble toxic elements from entering the system.

In the season of 1914, I treated fifteen cases of severe infection; all patients obtained almost immediate relief.

In the season of 1915, I had about twenty under my observation of whom eighteen obtained relief. In the large majority of these cases, there was no recurrence of the distressing symptoms after the second day of the treatment.

In the years 1916-17-18 and 19, the average number of cases treated have been thirty, the majority experiencing permanent improvement.

For years, I suffered to such a degree from hayfever that at times my practice was neglected. For the last two seasons, I have escaped almost entirely, except on days when, through neglect to take the necessary immunizing doses, a slight attack would be noted, which would disappear after taking a full dose of thyroid.

[1]By equivalent, the biological houses mean fresh, while in the dried form shrinking to one-fifth occurs.

"Dear Me, Jim!"

A Hayfever Story

By MANTHEI HOWE, Marquette, Michigan

HEAT waves flickered above the street and pools of asphalt gurgled in the crevices of the pavement. It was a scorching August morning, in the city.

Jim Patterson, trim in his summer-weight gray suit, sauntered into the office.

"Top o' the morning," called Bailey from an adioining desk. "How is the old hayseed?"

Jim grinned and began sorting his mail.

"Say Patterson," cut in another man. "This is the nineteenth. How about it?

Going to observe your anniversary tomorrow?"

"I am not," Jim declared. "Not this year."

They say, Hope springs eternal. In Jim's case it did more than that. His hope had a high-jump record. He had had hayfever for ten years; yet, each year he bravely hoped he "wouldn't get it this year." His friends pitied him when they remembered to do so. Most of the time they guyed him unmercifully.

It created quite a stir in the office, when he came in, the morning of the twentieth, clear-eyed, pale-nosed as normal. He was stepping high, wide and handsome and wore a most complacent grin.

"Good morning, Bailey. Hello, Hanson," he saluted them. "Fine day, isn't it?"

The men winked and consulted the desk calendar. It was the twentieth alright.

Until three o'clock that afternoon, Jim was of the elect. He had not hoped in vain this year! And then—brr-roop-kachoo! The report boomed out above the click of the typewriters and the usual din of the office. At the racket, every one stopped work. Even the snub-nosed office boy paused on his way to the water cooler. In the silence, another sneeze rent the air.

The office boy started the snicker that ended in a roar of mirth. To the last man, and woman, they shouted with laughter.

Bailey rose and bowed solemnly.

"On behalf of the assembled company I salute you," he pronounced. "Best wishes and congratulations, Jim. Your nose knows."

"Pompous ass," muttered Jim, under his breath. He bent over his desk trying to work in spite of his smarting eyes and tickling nose.

Hayfever Misery.

And then began the worst month of Jim's life. He sneezed all day and wheezed all night. He no longer perspired politely. He sweat vulgarly, profusely, drowningly. Between his body, his eyes and his nose, Jim was one long, drawn-out six feet of moist misery. He lost weight rapidly. In the very first week, when he entered on his annual siege of the dog days, as the office dubbed his period of suffering, he said goodbye to his disposition. No mad dog was ever more irritable.

The city never seemed quite so full of dust. The sun never glared so brightly. Never had the climate been so "muggy" as this year.

Jim rubbed his eyes. Then he sucked ice and rubbed his nose. From a fairly good-looking, presentable specimen of the male persuasion, he was fast becoming a physical wreck. Even Bailey began to worry.

"Dear me, Jim," he suggested. "Can't you do something for that hayfever?"

"Do sobding," rasped Jim. "You boor fish. Habn't I dud everything?"

After listening to the recital of remedies, Bailey had to acknowledge that Jim had. In fact, he had tried everything any one had ever told him about, from the calcium chloride treatment to the remedy suggested by an old farmer.

"You get a skunk skin," explained the farmer. "Has to be fresh-killed mind you. And you wear the skin, moist side down, on your chest."

Last summer, though quaking at the prospect, Jim did try the remedy. It was one time when he found that hayfever had not completely paralyzed his sense of smell. He stood the remedy for two hours, then decided it was easier to die of the disease.

It's a good thing hayfever is a seasonal occupation and, so, hardly enough of a paying business to attract the fake medical concerns. Otherwise the poor hayfeverites would be pestered with more "cures" than they have already experienced and, goodness knows, there have been enough.

Mental Treatment Useless.

Take Jim's case. He had tried long hours in a darkened cellar, with cold cloths on his eyes and ice in his mouth. He had flirted with the Stoic philosophy of Marcus Aurelius.

"Take away the opinion," advised Marcus, "and then there is taken away the complaint, 'I have been harmed.' Take away the complaint, 'I have been harmed,' and the harm is taken away. . . . . Unhappy am I because this happened to me. Not so, but, happy am I though this had happened to me."

Jim threw the book under the bed. "Marcus," he opined, "never had hayfever or he'd sing another tune."

In fear and trembling, he visited the office of a physician and bared his arm for the test for ragweed pollen. Jim never knew quite what happened. He remembers that the doctor made two circles of abrasions on the forearm and rubbed a liquid in one spot, and didn't on the other which he called "the control."

"The lever must have slipped, or a screw went loose somewhere," Jim was wont to reminisce sadly. "Anyhow, I couldn't see any 'control' about the darn thing. I near died. Had all the miseries I'd always had and a lot of new ones to keep me company. The doctor told me I was sensitive to ragweed. Oh boy! I'll tell the world I was. I burned and froze. I choked and fainted. I writhed in a stomach-ache worse than any I ever got from green apples. They say, it was a case of anaphylactic shock. I'm not acquainted with Anna; but, I can testify to the shock."

And so, Jim made the pilgrimage from remedy to remedy. He tried them singly and in combinations, only to continue to sneeze and SNEEZE and SNEEZE.

He put adrenalin in his nose and boracic acid in his eyes. Luckily, he had sense enough not to attempt to sniff cocaine. It was the only solace he had in his misery. That much, at least, he had acquired from

his study of Stoic philosophy—if he had to die he would die as gallantly as possible. He might be a swollen-beaked, bleary-eyed corpse but he wouldn't be a "snow-bird."

The deuce of it is, as Jim found out, one can't die of hayfever. The desire is there but the flesh is strong. People have committed suicide, though. Even Patterson began to dally with the thought along about the time he received a letter from a friend up north.

Hope Beckons.

"Why don't you come up here," advised the friend. Lord! man, life would be worth living then."

It looked cheaper and easier and not quite so messy as suicide, so Jim bought a ticket to Marquette, Michigan.

He was half blind and sneezing like an asthmatic flivver when he boarded the train at Detroit. The chair car was filled and he had to take the sunny side, but he pulled down the shade and slumped down on the small of his back.

The wheels grated and the train started in motion. A breeze, dust-laden, swirled in at the open door. Jim got a nose full. He grabbed for his handkerchief to muffle the noise, but it beat him to it. Ker-CHOO-O-O. And then that sneeze like a yearning young ghost went echoing down the car. Ker-CHOO! Brr-roo-kerCHOO! Chair after chair joined in the nasal chorus. Jim, for the first time in weeks, grinned.

Misery loves company. Every blamed passenger except two had hayfever. Until then, he had not taken much stock in this "come to the North" slogan. Now, though, he began to hope.

At Mackinaw.

A few hours behind schedule, they reached Mackinaw on the following morning. Jim went out on the back platform. A cool breeze was blowing off the lake. He straightened unbelievingly.

"My holy aunt!" he sniffed, "would you believe it?"

Sniff, sniff—he experimented joyfully. He could get a deep breath. His head began to clear immediately. Jim turned to a bleary-eyed rubicund old boy beside him.

"Gee this is great, isn't it?" The old fellow grinned, "Your first trip up?" he wanted to know. Jim nodded, "I'm going to Marquette." The old fellow chuckled, "this is my twentieth trip," he remarked. "Always thought there wasn't a blamed thing to be said in favor of hayfever. But I know better now." He closed his left eye knowingly. "Gives me an abso-positively good excuse for taking a vacation every summer. And, wait until you're really in Cloverland. You'll forget you ever sneezed. You'll eat like a stevedore and sleep like a ground-hog. Why, do you know that the first time I came up here, I'd have bet with any one that August and September were bound to be Hell, no matter where I went. Huh—that first whiff of Lake Superior made me change my mind quicker than a girl powders her nose on her way to answer the door bell."

Jim listened indulgently. "You must be a booster club of one," he smiled. "Me?" laughed the old boy. "I'm the charter member. But wait until you have been there a week. I'll bet you'll orate just as loudly, or louder."

Good thing, Jim didn't bet. The life outdoors did unexpected things to him. He slept as never before—and, eat! Every day was Thanksgiving Day as far as his appetite was concerned.

To make a good job of the trip, he stayed until the last of October. When he walked into the office, the first day back home, his coat was surprisingly tight about the chest. He had gained just exactly fifteen pounds.

Little Bailey, chuckling and bantering, rose to greet him.

"Dear me, Jim," he exclaimed, sizing up the "hayseed." "You seem to have done yourself remarkably well."

"Rather," grinned Jim, showing every ivory in his head. "Well, rather. I've found an abso-positively-sure cure for hayfever. It's a remedy so pleasant to take, the women can't resist it, the babies cry for it, and —believe me, I'm going back to it next summer."

Circumcision in the Female[1]

By CORA SMITH KING, M. D., Washington, D. C.

THE honor of first teaching the profession the indications for the technic of the operation of circumcision in the female belongs to Dr. E. H. Pratt, of Chicago. He has been a great teacher of anatomy and of the philosophy of practice based upon the study of the sympathetic nerve.

The indications for circumcision in the female are similar to those in the male, since it is the same branch of the pudic nerve that is irritated by adhesions or constrictions or both. The reflexes are sometimes directed to the digestive system, at other times more to the nervous system; frequently to both. The patient may be nervous, pallid, sensitive both psychically and

[1]Read at the Meeting of the Southern Homeopathic Medical Association, Richmond, Virginia, November 19, 1920.

physically, fretful and unreasonable, and, if an adult, introspective and melancholy. The appetite is finicky, with tendency to nausea; intestinal action is usually disturbed, either diarrhea or constipation; in a child, sleep may be fitful and easily broken, the patient starting up and crying out as if frightened; growth may be stunted.

It is surprising in some cases to note how rapidly the child begins to develop after the operation. In cases that do not have a local self-consciousness inducing masturbation, the reflex symptoms are much more marked. The masturbators are apt to be lethargic, with spirits depressed, dull and confused, rather than introspective; and to have constipation rather than diarrhea.

In young women, there are often found chlorosis and amenorrhea due to the inhibitory action on the ovaries from the pinching of the clitoris.

In Washington, there are, as clerks in the government employ, thousands of young women from all over the United States. They constitute a feature of our clientele distinctive of the National Capital. These young women who are "in office", as the local phrase goes, referring only to government service, flock to the doctors at the close of the day's work and, in the charm of their youth, remind one of a flower garden or, rather, of a bouquet of hot-house plants as the result of being shut in all day. Many of them are like drooping lilies, anemic from lack of sunshine and not infrequently presenting the symptoms already described. The operation is therefore often done in our office.

Technic

Step 1. *The Anesthetic.* The patient is given by mouth a "courage tablet" in the form of 1/30 grain of strychnine to support the heart against the depressing effect of cocaine. By so doing, we seldom have the syncope and nausea that are the *bête noir* in minor surgery under local anesthetics. One-half hour before beginning the operation, the patient is given hypodermically a hyoscine-morphine-cactin tablet containing ¼ grain of morphine sulphate. At the same time, is begun the external application of pledgets of cotton dipped in 10-percent solution of cocaine, one pledget being pressed inside the hood of the clitoris, another laid over the outside of it. If additional work is to be done, as, amputating the hymen or the labia minora, pledgets are placed on both sides of these membranes. These pledgets are changed every 5 or 10 minutes during the half hour in which the twilight-sleep tablet is taking effect. By this time, the patient usually is drowsy, indifferent and insensitive. Apothesene, in 2-percent solution, is now injected hypodermically into the tissues to be removed.

If ether is to be used, the cocaine and the apothesene are omitted, but the hyoscine-morphine-cactin tablet is always given, except in young children.

Step 2. *Breaking up the adhesions.* With the pledgets of cotton, wet in the 10-percent solution of cocaine, the adhesions are broken up by pressing the hood backward on each side. Usually the clitoris will pop free almost like a pea in a pod. Sometimes, however, it is necessary to delicately adjust the retracting pressure to loosen more completely on one side or the other until the corona of the clitoris stands out as definitely, in proportion, as in the male. Care should be taken not to use violence sufficient to tear the tissue in breaking up these adhesions, as such traumatism tends to readhesion in the healing.

Step 3. *Circumcising.* With two delicate forceps, the hood is now seized on each side of the median line, leaving room for a straight pair of scissors to slit between them to the apex of the clitoris. Half of the hood being put on tension by small forceps holding the upper and lower ends of the margin, this side of the hood is shortened with curved scissors, taking care to leave about ⅛ inch of the mucous membrane lining the hood. The skin side of the hood is now picked up by the two forceps and an additional strip about, ⅛ inch wide, is removed down the length of the incision. The object of this is, to cause a slight eversion, leaving the clitoris less liable to readhesion. The same procedure is followed with the other half of the hood.

Step 4. *Attending to hemorrhage.* Any bleeding points should be picked up and tied with "00" catgut. If the bleeding is not carefully attended to at this point, there may be trouble later after the approximating sutures are in, when it will be almost impossible to locate the exact bleeding point, as the blood oozes from the line of sutures at a place that may be some distance from the arterial twig. In the event of hemorrhage following the completion of the operation, the simplest procedure is, to ligate the clitoris branch of the external pudic artery. This is done by taking a stitch about ½

inch above the apex of the clitoris, the needle entering transversely about ⅛ inch in depth. The bleeding will stop immediately on tying this suture if it has gone deeply enough to include the artery. This is more satisfactory than attempting many ligations in the hood itself, the attempt being often futile to locate the exact point of bleeding.

Step 5. *Suturing.* "00" catgut in a fine full curved needle is used to approximate the skin and mucous membrane. The first stitch is placed at the apex of the clitoris to flatten the angle. Only two or three additional stitches are required on each side to make a neat approximation. Care should be taken not to include the subcellular tissue, but only the skin and mucous membrane; also, not to tie the stitches too tightly because then there will be a scalloped effect in the healing.

Step 6. *The Dressing.* During the operation, sponging is done with pledgets of cotton or gauze dipped in a weak solution of iodine. After the stitches are placed, the wound is sponged dry. The short hood remaining is retracted and thymol iodide (aristol) is powdered into the sulcus between the hood and the clitoris. This powder, being insoluble, prevents adhesions by separating the formerly adherent mucous membranes. Calendula cerate (made with lanolin) applied liberally around the wound and between the labia on top of the powder, will aid the healing and prove comforting.

Step 7. *To Prevent After-Pain.* To prevent the burning and smarting which are apt to be felt half an hour after the operation, it is well to insert in the rectum, shortly before completing the operation, one or two cocoabutter suppositories each containing 1 grain of opium. The patient then passes from the twilight into a light sleep and may have no memory of discomfort during or following the operation.

Step 8. *After-Care.* The patient is allowed to stay in the office for two or three hours, under observation for hemorrhage, and is then allowed to be taken home in a taxi. There is usually nausea and faintness on standing, but this is not experienced while riding in the open air and, as a rule, the patient sleeps restfully though not deeply, from the time of arriving at home until the next morning. At any time, she can be aroused to answer questions or she rouses herself to ask for a drink. To avoid nausea, no food should be given until the following morning, but water can be taken freely. The second day after the operation, the patient reports at the office for a dressing. There is usually considerable odor and gumming of the parts. This is readily cleaned up with a sponge dipped in gasoline which will dissolve the mixture of blood, cerate and thymol iodide. The powder and cerate are reapplied and this dressing and cleansing are repeated on the third, fourth and fifth days, at which time the catgut sutures have usually disappeared. The patient is now directed to take a sitz-bath and to apply either calendula cerate or cold cream to prevent friction of the parts.

Associated Operations

If other orificial work is necessary, it should be done at the same time; as, for instance, the amputation of a thick or imperforate or ragged hymen, amputation of the labia minora, removal of the rectal papillæ, or dilatation of the cervix uteri.

Evolution as Applied to a Rational Treatment of Asthma

By BERNHARD R. LOEWY, M. D., Peekskill, New York

THE development of scientific facts or of particularly brilliant scientific achievements is apt to create the idea that, with scientific attainment, we escape the action of the laws of evolution. This is far from the truth.

That this idea is erroneous, is well demonstrated in the fields of materia medica and therapeutics.

Man's well being is so necessary to his progress that the effort to rid himself of disease early became a powerful factor in his life. As he evolved his intelligence through experience, so his therapeutic

measures underwent a corresponding evolution.

One need only glance back at the mass of old remedies that have been discarded to realize that, in those "fittest to survive," we have a certain group of remedies that play a most important part in chemotherapy.

These are best illustrated in the iodides, iron, arsenic, mercury, quinine, salicylates, and others. This list, with few additions, comprises the standbys of the materia medica of today.

Empirical Therapy Confirmed by Experience

At first thought, it may be said that the use of these remedies was empirical; therefore, unscientific. This in a sense is far from the truth. They were proved to be the "fittest to survive" by the very test of "repeated demonstration" that marks scientific facts.

That the methods of the physician of the past fifty years were justified by clinical results, is now being corroborated by well established facts of pharmacology and therapeutics demonstrable by modern laboratory facilities and knowledge.

Let us take the empirical administration of the iodides, as example. They are used extensively in asthma, arteriosclerosis, arthritis, bronchitis, nephritis, syphilis, glandular affections, and so forth.

The results in these conditions, and the socalled resolvent action, can only be explained as a result of phagocytic activity induced by these drugs.

It is a well established fact of immunity that hyperleukocytosis is an indication of an immunity function that is called into play as a result of the presence of bacterial protein or the disorganized nitrogen compounds of intestinal absorption and metabolism.

It is a well established fact that certain bacteria possess extracellular and intracellular enzymes that exert a paralyzing influence on certain immunity functions. Thus, in anthrax, tetanus and other infections, leukopenia is caused by the extracellular enzymes. This was well illustrated in the recent epidemics of influenza, where leukopenia was almost pathognomonic of the infection.

Chistonia, many years ago, stated that iodides increased the elimination of nitrogen compounds.

Again, it remained for an evolutionary step to prove the true pharmacology of the iodides.

Iodine Acts by Producing Hyperleukocytosis

In animal experimentation, the administration "fittest to survive" proved to be the intravenous method. Coincident with this progress in pharmacologic research, the pharmaceutical work of Loeser has enabled complete demonstration of the practicability of the intravenous administration of the iodides.

With the advantage of the intravenous administration, Armstrong (*Medical Council*, July, 1919) demonstrated that iodine alters leukopenia in influenza to hyperleukocytosis, thus restoring immunity.

Stern and Ritter (New York *Med. Record*, Jan. 31, 1920) demonstrated in over 100 cases, at the Broad Street Hospital, New York, the advantages, and compared the results of, the intravenous administration of sodium iodide, to protein treatment in the collateral infections of gonorrhea.

Geyser (*Amer. Jour. of Clin. Med.*, May, 1920) reports eight institutional cases of bronchial-asthma cases treated successfully with sodium iodide intravenously.

That the results of nonspecific-protein injection are brought about by the resulting hyperleukocytosis, is well established.

It has been well demonstrated that asthma results from an infectious process, or from the absorption of protein from intestinal digestion.

Is it mere coincidence that, in all conditions, such as asthma, arthritis, and such, in which non-specific proteins are employed, iodides have been used empirically.

Kolmer (*Journal A. M. A.*, Sept. 2, 1916) reports experimental work indicating that iodides provoke positive cutaneous reactions of luetin in normal individuals. Also, that iodides provoke the same phenomenon with other non-specific protein. Hyperleukocytosis caused by the iodides is the only logical explanation of this phenomenon.

Hyperemia with leukocytosis is the outstanding feature of cutaneous reactions.

R. M. Trott (*Arch. Int. Med.*, Sept. 15, 1920) states that hyperleukocytosis follows the subcutaneous injection of epinephrin. Epinephrin, known popularly as adrenaline, is frequently employed to relieve asthmatic attacks.

Summarizing, we find that asthma, arth-

ritis, arteriosclerosis, and other affections considered as manifestations, or results, of disturbed parenteral protein absorption, respond to remedies that are known to promote hyperleukocytosis and stimulate phagocytic activity. This stimulation of phagocytosis is undoubtedly responsible for the resolvent action on pathological tissues, round-cell infiltration, fibrous and other degenerated tissues.

From a pathological point, I wish to draw attention to the trend of thought now prevailing in the study of the wandering cells which have proved of diagnostic and prognostic value. There is a tendency to account for the various leukocytes as they are now differentiated as being the daughter-cells of certain fixed tissues. The large mononuclear cells are regarded as the daughter-cells of endothelial tissue forming the membranes of the blood vessels, bronchi, lymph channels and sinuses, and glandular tissue.

Let us assume that resolution of pathologic, or degenerated, tissue by leukocytes (the wandering daughter cells) is a result of iodide stimulation on endothelial tissue.

Referring to the conduct of endothelial tissue, we find the fixed cells capable of contracting and affecting the cement lines so as to permit diapedesis. In performing diapedesis, leukocytes and even erythrocytes change their form in squeezing through between the endothelial cells. Inasmuch as this must be carried on with lessened resistance, increased fluidity of the serum or lymph is an accompanying change.

Here we have a plausible explanation of the expectorant action of the iodides as well as their effect of increased glandular secretions.

Case Histories

The following case histories represent my experience with the intravenous method of administering sodium iodide in the treatment of asthma. Whereas certain results, in past years, have been obtained with the iodides administered by mouth, I am convinced that the intravenous method is an advance for scientific effort in the relief of many conditions.

Female, 48, height 5 ft. 6 in.; weight 224 Asthmatic attacks during two years, increasing in frequency four to six a week. History of intestinal disturbance. Mucocolitis. Blood pressure, 190. Corrected diet; reduced protein. Administered intravenously 20 mils of a solution containing 2 Grams sodium iodide, every 2nd day. Results were immediate. Only two attacks in first ten days. After third week, injection given every third day. Blood pressure 150 after second injection; down to 140 after fourth injection. Weight decreased to 205 after one month. Patient well. No attacks during four months following.

Male, 38, height 5 ft. 6 in.; weight 138. Asthmatic attacks during past year following acute bronchitis. Coughing, loud whistling rales; profuse, tenacious mucous discharge. Had lost weight, appeared anemic. Administered intravenously 5 mils of a solution of iron and arsenic, 64 mg., also iron cacodylate; every fourth day for five doses. Tonic effect very evident, weight increased by eight pounds within three weeks. Began treatment with sodium iodide intravenously, 2 Grams in 20 mils, giving injection every third day for three weeks. Effect was immediate. Mucous discharge became thinner immediately. Coughing stopped. No attack of asthma after second injection.

Male, 42, height 5 ft. 6 in.; weight 130. Asthmatic attacks six months following attack of influenza accompanied by bronchitis. Coughing persisted, with loss of weight. Patient feared tuberculosis. No indication by percussion or temperature variation. Sibilant rales. Laboratory report, no tubercle bacilli, sputum contained "perles" of Laennec, fibrinous casts, eosinophile leukocytes. Administered sodium iodide intravenously, 2 Grams, in 20 mils of solution, every second day. Results were immediate. Cough improved and no attack occurred after the first injection. After receiving eight injections, put patient on tonic treatment of iron and arsenic intravenously. Patient gained 12 pounds within two months of beginning treatment.

Male, J. B., 35, weight 135, height 5 ft. 6 in.; asthmatic attacks one or two per week following pneumonia, 8 months previously. Administered sodium iodide, 2 Grams in 20 mils of solution, at 3-day intervals, for 5 doses. Effects immediate. Attacks stopped after second injection. Has been free from them since.

Female, M. S., age 32, weight 110, height 5 ft. 2½ inches. Had acute bronchitis two years ago. Coughed on and off since. Asthma, two or three attacks a week for past eight months. Patient anemic and listless. Iron and arsenic intravenously, every four days, for six doses, for tonic effect. Marked improvement in general condition. Intravenously 2 Gms. sodium iodide every three days, four doses, during which time had but one attack. Repeated sodium iodide every five days, four doses. Has not had any more attacks. Weighs 125 lbs. and feels fine.

Male, K. M., 60 years old. Height 5 ft. 3 inches. Weight 165 lbs. History of intestinal disturbance for past thirty years. History of asthma past twenty years. Has used everything imaginable for relief of condition without result. "Smoking powder" gave

some relief for past two years. Attacks for past two years, three to four times a week. Came under my observation a year ago. Administered 2 Gms. sodium iodide in 20 mils of solution every second day for 8 doses. Result, four attacks during this time, not severe as usual. Eight more injections at 3-day intervals, during which time had three mild attacks. Continued one injection every 8 days for three months. Marked improvement. Has mild attack at about three-week intervals. Feels fine, results very gratifying. Patient still under observation.

Female, H. L., age 21. Height 5 ft. 2 inches. Weight 105 lbs. Asthmatic history since childhood. Anemic. Married. One child eights months old. For past five months, two or three attacks per week, almost always at night. Has been on restricted-protein diet for over a year. Came under my observation three months ago. November 10th, administered 2 Gm. sodium iodide in 20 mils of solution, every third day for 5 doses. During this time had two mild attacks. Repeated dose every five days for twenty days, having nine doses in all. During this time had one mild attack. Iron and arsenic 1 Gm. every five days, six doses. Has been free from attacks. Gained twenty lbs. in weight, but is still under observation.

Male, L. B., age 35. Height 5 ft. 5 inches. Weight 125 lbs. Asthmatic attacks for past fifteen years. Come on suddenly at intervals of one every two weeks. For past six months, two or three times a week. History of bronchitis for past twenty years. Came under my observation four months ago. Administered intravenously sodium iodide, 2 Gm. in 20 mils of solution, October 5th. Repeated at 2-day intervals for five doses. During this time had, as patient said, "A mild attack." Injected same dose at intervals of five days, three more doses. During this time, had no more "attacks." Iron and arsenic 1 Gm. every five days, five doses to build up general health. Patient now weighs 140 lbs., and feels "perfectly well."

After Thirty Years—XXV

Notes and Reflections on Life and Work

The Treatment of Gonorrhea

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois

PROBABLY most doctors in general practice have a favorite treatment for gonorrhea in the male; yet, judging from the number of inquiries I receive on this subject, there must be a good many who feel somewhat at sea among the widely differing methods of treatment. I believe that I have tried all these methods and I have abandoned most of them. The treatment I have followed for many years is characterized by simplicity and, in describing it, I am not criticizing the methods of others, but I merely say that it has given me and my patients satisfaction. If others have a better method, it is not for them that I write.

Simplicity

The longer I practice medicine, the more I incline to simple methods; and this is especially true as to gonorrhea. So I aim to make simplicity the keynote of my treatment. The disease is to a considerable extent self-limited; many cases would do better with less interference than is generally given. For this reason, I have abandoned all complicated methods of treatment.

Avoiding Irritation

Like the eye, the urethra has an exceedingly sensitive mucous membrane; if we irritated an inflamed eye as much as some methods of treatment irritate an inflamed urethra, there would be a general protest.

In the acute stage of a urethritis, I instruct the patient to urinate frequently so as to wash out the pus as often as possible. In order to make the urine as bland and non-irritating as possible, I give him a tablet containing cubeb, copaiba, oil santal, etc., not with the old idea of "curing" the disease, but merely to alleviate the pain of urination. If this does not suffice, I may add sodium bicarbonate for a few days. To the same end, I instruct him to avoid highly seasoned food, permitting no corned beef, salt meats or salt fish, no vinegar, no very acid fruits; all meats are to be eaten sparingly, a very simple diet, in fact, being ordered. I insist strongly that there must be

no sexual indulgence, that no alcoholic liquor of any kind be used, and I tell the patient bluntly at the first interview that disobedience on these two points or on either of them, will undo all that I can do for him and will cause me to drop the case. I say to him: "These cases are disagreeable and even dangerous to the doctor and, unless you will obey my instructions, I will wash my hands of the whole matter."

Injections I use, if at all, only after the acute stage is over. More than half of my cases do not need them. This is an advantage as many of these patients are unattached young men living in boarding houses where efficient home treatment is impracticable or even dangerous to the other inmates. If the subacute stage shows indications of being too prolonged, I order injections of permanganate of potash, following the rule that a weak solution, used six times a day, is more effective than a strong one used twice or three times a day. If, after a fair trial, this does not give results, I give argyrol in 10-percent solution, bearing in mind that this cannot be used as often as the permanganate—once or twice a day. As a rule, the man who is having the disease for the first time gets over the attack more quickly than the veteran of many battles, who very often had never been thoroughly cured and is merely enjoying a recrudescence of a former attack. The patients belonging to this latter class are pretty certain to need injections.

Proof of Cure, Stricture.

When the case is apparently well, that is, when the discharge has stopped except for a little glueing of the meatus in the morning, then is the time when most mistakes are made. Before dismissing the patient as cured, I pass a sound. Usually, the discharge returns somewhat in the next few days, proving that the "bugs" were not dead but sleeping. If it is an old case, the sound generally reveals a stricture. If the sound produces no reaction and there is no sign of a stricture, I tell the patient to report once a week for a month, so as to have the sound passed. If all is well at the end of that time, I tell him that he is probably cured but that he is to watch himself for a year; also I warn him to report at once any sign of discharge. The doctor owes this care to the possible future wife or children of the patient.

In case the sound causes a return of the discharge, or if there is evidence of a stricture, I treat the patient with thymol iodide in oil. I use the preparation known as Euarol. This, used with the sound, has given me such good results that I have not cut or divulsed a stricture in twenty years. No force is used with the sound. I inject into the urethra 10 or 15 minims of Euarol and prevent its escape, until I can introduce the largest sound that will pass easily through the stricture, having first diagnosed its location, length and caliber by means of the olive shaped bougie. For injecting the oil, I prefer a common medicine dropper to a syringe. The sound carries the oil back to where it is needed. The thymol iodide seems to cause absorption of the cicatricial tissue, aided no doubt by the stimulation of the sound, for, after a few treatments, a larger sound will pass and, in time, one corresponding to the full size of the urethra.

A Case History.

If the reader will pardon me, I will describe what I consider my "star" case. Some years ago, Mr. Blank, a man well known in city politics, came to me in great distress. A neglected stricture had suddenly shut down on him, and his bladder was enormously distended. I put him on his back and made him hold his penis on the stretch in a vertical position, while I went to work with a filiform bougie in each hand. After 15 minutes of patient, gentle manipulation I succeeded in engaging the tip of one bougie in the stricture. After about five minutes of gentle but steady pressure, the bulb of the bougie passed through beyond the narrowest place; the second bougie entered without much delay, and then a third. By this time, there was considerable urine oozing between the bougies. So, I turned him on his side, put a basin under him and let him dribble. In an hour, enough urine had run away to relieve him considerably. Then, I withdrew the bougies and succeeded in passing a very small catheter, after which we soon had his bladder empty. The next day, I began with the Euarol and the sound. Although several months were required, the result was perfect.

In another case, the filiform bougies would not pass until I injected a 4-percent solution of cocaine into the urethra, and, by stripping, forced some of it through the stricture which suddenly relaxed so that the patient emptied his bladder without fur-

ther help. The value of cocaine in spasmodic strictures should not be forgotten, for, there is a spasmodic element in every stricture that closes up suddenly.

I can hear the reader asking whether the result is permanent after this Euarol and sound treatment. My experience has been, that it is more permanent than after cutting or divulsion; it does not produce any new scar tissue.

Cooperation.

At the first interview, it is highly important to try to secure the cooperation of the patient by giving him certain instructions calculated to remove erroneous ideas from his mind and to give him a proper conception of the gravity of the disease, and of the possible consequences to him or to a present or future wife and children. I try to get out of his head the false notions he is pretty sure to have imbibed from his companions. I show him the falsity of the idea that a dose of gonorrhea is a simple affair; that his comrades, who tell him they don't mind it any more than they would a bad cold, are talking from their ignorance. I tell him that most cases are not cured when they think they are, that often the germs lie latent for years, causing stricture or breaking out afresh on some provocation; or, worse still, infecting an innocent wife or causing blindness in his children. I warn him of the terribly infectious character of the pus, of the danger to his eyes and the danger to others through the use of washbowls, towels, and waterclosets; of the danger and the suffering of inflamed testicles and of how to avoid it.

The present law in Illinois for reporting venereal diseases is a great help to the doctor if properly used, both in the way of furnishing informative literature to the patient and in giving the doctor a stronger hold on him. I was opposed to this law at first, but I am frank to admit that I was wrong. When I tell the patient that I must report the case, though not his name unless he stops coming before he is cured, he is apt to think twice before he goes running around from one doctor to another or tries to treat himself.

In treating all venereal diseases, I avoid giving prescriptions to the patient or telling him what I use. If I furnish him the medicine, I hold him to me and discourage counter-prescribing. We doctors have been to blame in the past for injuring our business by foolishly letting patients know what we use.

Business Methods

Last but not least, we should be business-like in dealing with these cases. If the patient is not well known to me, I have a clear financial understanding with him at the first interview. I insist on a reasonable amount of cash down. If he claims to have no money, I ask him: "Can you expect credit from a total stranger? Are you not giving yourself a bad recommendation in asking it? Every man has some friends. This is the time for you to seek the help of yours." If this scares him off, I am well rid of him. If he seems like an honest fellow I may wait a couple of days for him but no longer. If he finds the doctor using business methods, he will respect him in the end.

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Report of Four Successful Cases of Prostatectomy

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THE *Journal of the Oklahoma State Medical Society* published my first paper on suprapubic prostatectomy, which was read before the Central Medical Society, at El Reno, Oklahoma, in June, 1910. This was at a time when most surgeons of the United States were still performing the perineal operation, and it was less than ten years before this date that the main reliance, in prostatic obstruction, had been the common catheter or, in difficult cases, the Mercier catheter. Failing to pass the catheter, the method was, to do a paracentesis of the bladder or to do a perineal cystotomy.

I read a later paper on this same subject, before the New Mexico State Medical So-

Read before Lee Co. Med. Soc. at its Annual Meeting January 14, 1921.

ciety, at its meeting in Las Cruces, and this paper was published in the *Journal of the New Mexico State Medical Society*, in 1917.

It will still be some years before the practitioners throughout the country will recommend these cases to the surgeon, before catheter life, with its inevitable infection, has greatly lessened the patient's chances for immediate recovery and almost excluded ultimate good health, should he make an operative recovery.

These cases, it seems to me, are analogous to the cases of acute appendicitis and to the course pursued some fifteen or twenty years ago, when golden moments were lost because operation and non-palliative measures were not recommended and insisted upon, at the time when the patient was first seen.

Old men, who have more or less successfully lengthened out their lives and eased their sufferings by means of the catheter, are still pointed out, as shining examples and ready excuses for temporizing with these important cases that require operation just as much as acute appendicitis does. Catheter life signifies the beginning of the end. We urge prophylaxis in other diseases, why not apply surgical prophylaxis to these old men?

Prostatectomy was formerly an emergency operation, both difficult and dangerous, with a death rate equal to or greater than most of the difficult major emergency surgery, because it had to be performed upon the aged and especially upon aged people who had lost their vitality and their ability to come back, because they were poisoned by both uremia and infection.

Just as it is true that, with operation for hernia being postponed until strangulation occurs, or for appendicitis until suppurative peritonitis results, both conditions must result in a most marked increase in the dangers of surgical treatment, so too, when prostatectomy is postponed until cystitis, pyelitis, nephritis or cancerous changes occur, it is true that prostatectomy becomes clouded by the specter of death.

Early Prostatectomy Not Dangerous

I firmly believe that prostatectomy, performed before these complications have arisen, is no more dangerous than appendectomy.

Now, the question arises as to the neglected cases. How shall we meet the emergency? General anesthesia is usually contraindicated, both on account of the advanced age of the patients, their toxic condition and the very marked tendency to postoperative pneumonia. Although spinal anesthesia is contraindicated in the very old, it may be made use of in some cases. However, better in most cases is the use of local anesthesia for a preliminary cystostomy. When the patient has regained a measure of health, the gland may be removed.

I am able to report a few cases in men over seventy years of age who, at the time they came under my care, were suffering with acute retention of urine for prolonged periods and were severely toxic; each after a period of prolonged catheterization. All of them survived the operation. All regained an abundant and unimpeded flow of urine. All had complete control of the bladder. There was no difficulty in starting the urine; and their subsequent health was vastly improved.

Case Reports

Case 1.—Mr. J. T., Irish, Age 73.

F. H.—Father died from bladder trouble which existed for 12 years previous to his death. One brother died from dilatation of the heart. One sister died from tuberculosis. One uncle died from apoplexy and one uncle from malaria. He has four children in good health.

Present complaint: He first noticed that the urine dribbled when passed and that it would stop and start again. This symptom has been very troublesome indeed for six months. Then, too, he has had spasmodic jerking of the bladder after micturition and, lately, he has suffered great pain after urinating; he was obliged to use great force to start the stream. For six months, his bowels have acted simultaneously with micturition and, for eleven days, he has passed no water except that which was removed by catheter once a day. How many of us would wish to have the bladder relieved only once in twenty-four hours? He has had nycturia for 1½ years and now suffers great pain in the hypogastrium and beneath the glans penis. He says that there has been no bleeding except when the catheter was used and that he has been very amorous of late. He is unable to stand because of paraplegia caused by a neuritis affecting the lower limbs, which came on after the retention of urine.

On examination, the bladder was found

overdistended with urine and a large soft prostate could be felt per rectum. He had also a cystitis and an examination of the chest revealed a mitral regurgitation. The arcus senilis was very marked.

The bladder was irrigated with copper-sulphate solution (grs. 2 to the pint) and he was given, internally, 15 drops of a 50-percent sol. of phenol Sal. in oleum gaultheriæ. Later, the internal medication was changed to formin. An indwelling catheter was placed in the bladder and permitted to remain until the man's condition offered a chance for recovery after operation. I then performed a suprapubic prostatectomy under ether and removed a prostate that had a large, ball-like median lobe which was acting as a ball-valve over the internal opening of the urethra.

The patient made an uneventful recovery and wrote me, three months after returning home, that he was able to hoe in the garden.

Case 2.—Mr. S. J. F. American, 70 years old.

F. H.—His father died from lung trouble, his mother from erysipelas.

P. H.—He has had dysentery at intervals for years, bronchitis, prolapse of the rectum, and piles. About two years ago, he had a sudden attack of bladder trouble which, his doctor said, was due to prostatitis. Two years ago, he had to get up three to four times at night and strain very hard to make water. His condition was always much worse at night. He made 1½ pints of water during the day and complained of much bearing down and weight in the rectum; also, great pain at every bowel movement. His urine stopped and started. He had pain under the glans penis and rheumatic pains throughout his body; noises in his head and a great amount of headache. His eyes were puffy in the mornings. He had some edema in the legs and complained of cramps in them.

An examination showed an enlarged prostate, chronic bronchitis, chronic interstitial nephritis, hemorrhoids, rectal prolapse and a tumor of the testicle.

He recovered from this acute attack under massage, boric acid irrigations, internal administration of phenol Sal. with oleum gaultheriæ.

He refused operation, but returned to the hospital a year after suffering with similar symptoms as before. He had used a catheter on himself for ten days. I now performed a suprapubic prostatectomy under choloroform. About ten days after the operation, he developed a suppurative orchitis and I removed the testicle (the one with the tumor). The patient passed all his urine naturally after the twelfth day. It flowed in a large stream with no difficulty either in starting or in the control of the bladder. The rectal trouble disappeared.

Case 3.—Mr. W. T., aged 90 years.

He has had difficulty in passing urine for a number of years. Six years ago, he had acute retention of urine and was treated by the passage of sounds. Advice was given at that time against operation and he had occasional resort to the catheter during the last six years. For two days, he had been catheterized, but at present no form of catheter would pass.

The patient's bladder was very much distended and he was in great pain. His pulse was 102; the temperature 97. A sound would pass freely to the prostate and no further. By rectum, an enormous prostate was felt.

I performed a cystostomy the same afternoon and established drainage. This was done under local anesthesia. The patient was given urinary antiseptics and the bladder was frequently irrigated. On the ninth day, he developed some fever temperature accompanied by increased pulse rate. He became nauseated, his urine diminished and the temperature at times reached 102.7.° Twelve days after the first operation, I removed an exceedingly large prostate, under chloroform anesthesia. The patient left the hospital on about the 46th day after the prostatectomy, with a very small vesical fistula which healed up entirely within three weeks after returning home. He gets up at night now three or four times instead of ten to twelve times. He passes all his urine naturally and in a large stream, but has to urinate oftener than normal. The delay in healing was due to a very foul cystitis and to his advanced age.

Case 4.—Mr. D. W. 75 years old; occupation, farmer.

This man came to me complaining of severe chills lasting fully an hour at a time, high fever and pulse rate, delirium, and retention of urine; also, severe pain in the abdomen and under the glans penis, with constant desire to urinate.

F. H.—His father had similar trouble with his bladder and died after using a

catheter for about 15 years. His mother died from old age and a sister died from heart disease.

P. H.—He had measles and mumps otherwise he never was sick until three years ago, when he began to notice frequent micturition; also that the quantity passed each time was small in amount. He found it necessary to urinate from four to six times each night. This was not the characteristic nycturia of the early morning hours. He noticed that he had considerable difficulty in starting the urine and that the stream was small and struck close to his feet. The bottom of the vessel contained a thick gelatinous sediment in the mornings and he had frequent erections. Almost three years before coming to the hospital, he had been given a catheter to use at such times as retention occurred. For one year, he had spells when he suffered from severe chills with fever following. He would apparently recover from these attacks and his health would be about as usual. The night before coming to the hospital, he had three chills, each lasting about one hour; two chills in the morning before reaching the hospital, and one severe one that afternoon. His temperature was 105.5; the pulse, 120.

A cystostomy was done and drainage established, after which irrigation was carried out. As soon as his health justified it, I performed a suprapubic prostatectomy. He passed all his urine through the natural channel on the 17th day. At present, he has a perfectly free stream of good force and is free from pain. He has no difficulty in starting the urine or in controlling the bladder. He now gets up only once at night to pass urine, with scarely any dribbling.

Some Phases of Empyema of the Antrum of Highmore[1]

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TWO recent cases of purulent sinusitis of the antrum of Highmore have focused my attention particularly on the dental phase of this question.

For many years, the antrum has been more or less understood and treated for purulent conditions. Up to comparatively recent times, the subject has been largely in the hands of the dentists and was treated accordingly. Now, however, the pendulum seems to have swung very much to the other extreme and rhinologists are doing virtually all of this work. It would seem as though a middle ground should be urged since the dental origin of a certain percentage of these cases brings the patients into the hands of dentists first and at a time when the minimum of treatment is needed to produce a cure. It is barely possible that the dental profession has lessened its interest in the study of antral infections because the rhinologist has assumed for himself the whole field.

Complete studies[1] of the relationship of the teeth to the antrum have been made. It is well known that all the molars are possible factors in causing antral disease, while the second, on account of its central location and proximity to the floor, is probably the most frequently at fault. It is also well known that the distance between the tip of the roots of these teeth and floor of the antrum is variable as is the consistency of the maxillary bones at this point.

Writers vary greatly as to the bearing of root infection on antral conditions as a causative factor, ranging all the way from 100 percent[2] to 8 percent[3]. But, Skillern[4] represents the modern viewpoint, when he estimates the percentage to be from 20 to 30. Even with this fairly low figure, it should be considered a matter of first importance by the dentists when the symptoms point to trouble in the upper molar region.

The difficulty often comes from the fact that the subjective symptoms are obscure. Nasal catarrh is so common and often accepted by the patient as a necessary evil, that cases are not given the attention they should get. Also, an abscessed root may cause severe pain and receive treatment until the pain is relieved. The patient thinks that he is cured of his tooth trouble,

[1]Read before the Orange Country Medical Society.

when, in reality, the abscess may have broken through into the antrum and the pain ceased on account of the fact that the tension was released. If a good roentgenogram had been made, such a mistake could hardly happen.

Importance of Roentgenogram

It is gratifying to know that patients are fast becoming educated to the fact that an examination of the teeth is not complete, in these days, without a series of carefully worked out roentgenograms. They are also learning that local pain is not an absolutely essential symptom of a diseased tooth root. It is perhaps on this account that more cases of this kind come directly to the rhinologist than formerly, and it is often he, instead of the dentist, who discovers the tooth as the exciting cause of a purulent antrum

Another factor is well illustrated in one of our cases. Painful second molars below a purulent antrum need not necessarily be extracted. It frequently happens that the cause of the antral disease is of nasal origin, secondary to some other sinus infection and, on account of the thinness of the osseous wall between tooth and antrum, the nerve of the root is irritated. When the infection in the antrum is cleared up, the pain in the tooth will cease in a short time. Whether to extract a tooth under such conditions, is often a hard point to decide. At any rate, it is a serious mistake to kill the nerve in such a tooth, thus devitalizing the root and inviting abscess formation later on.

Illustrative Cases

Case 1. (No. 8806) Mrs. P., age 54, referred by Dr. Chapline with a history of pain in the left superior maxillary region of three years' duration, always worse following at attack of acute coryza. She had a "slight catarrh," as she said, with discharge from the left naris. Pain was more severe when the acute discharge was blocked. The pain seemed to be in all her upper teeth, on the left side, and extending into the region of the orbit. The second molar tooth was more sensitive than the others but contained no cavity.

Examination showed a well nourished but rather sallow-complexioned woman. Nose congested in region of left middle turbinate with septum slightly deflected to the left. Some pus was present in the middle meatus, anterior and posterior. Transillumination revealed left antrum and ethmoid region cloudy. Roentgenogram showed the same with a cloudy sphenoid on left side. Plates of the teeth were all negative. On needle puncture, foul pus was washed out.

Operation was done. Removal of left middle turbinate, exenteration of ethmoid cells, anterior and posterior, and sphenoid, with pus present in all. Then, according to Dean's method[3], the inferior turbinate was infracted toward the septum and the antral wall in the inferior meatal region removed and cavity curetted as far as possible.

Following the operation, the pain continued so severe that she saw her dentist. Since the plate showed apparently healthy roots, he wisely decided to temporize and treat the tooth. After a few days, the pain entirely ceased and the patient went on to a rapid recovery. Extraction of the tooth would have been a mistake.

Case 2. (No. 496) Mrs. Y., a well nourished woman, age 38, referred to me by her dentist. She was sallow-complexioned, felt all "run down," with loss of appetite and ambition. She gave a history of more or less pain of an indefinite nature in the region of the first and second upper molars on the right side, and had consulted her dentists about it on several occasions.

Present trouble of two weeks' duration. She stated that, during a dental treatment, she tasted pus and felt it coming from the back of her nose immediately following an injection made at the base of the second right upper molar.

Examination showed right middle turbinate congested, pus in middle meatus, anteriorly.

Transillumination showed right antrum cloudy. Roentgenogram corroborated these findings; in addition, one root of the second molar seemed abscessed.

Operation was done under general anesthesia. The second molar was extracted and the opening into the antrum curetted. The nasal inferior meatal wall was thoroughly broken down and the cavity cleaned out. Much pus and necrotic tissue, with foul odor, was removed. The patient made a rapid, uneventful recovery.

The question of saving teeth must always be considered. Extraction, however, under such conditions is the only thing practical. Root amputation in teeth of more than one root is rarely successful, and, under such conditions existing, is doomed to failure.

Conclusions:

1. Since root abscess is a causative factor in such a large percentage of antral conditions, dentists should ever be on the alert in order to make early diagnoses.

2. Roentgenograms and their proper interpretation should be a matter of routine in the examination of the teeth.

3. Pain may remain in healthy teeth for a time following proper autrum operation,

due to nerve irritation. Extraction is not always indicated.

4. It is not practical to try to save teeth, by root amputation or any other method when a diseased root is the causative factor of a purulent disease of the antrum.

5. Cooperation between dentist and rhinologist is always advisable in cases of antral disease.

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Relations of Endocrine Stimulation and Sympathetic Stimulation

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Introductory

THIS paper will not attempt to give complete reviews of all the factors entering into the topic under consideration. That in itself would require volumes. It is evident, however, that the following must be considered in special details:

1. Sympathetic

(Autonomic)
(or)
(Vegetative)

Nervous System.

(a) Origin.
(b) Development—Structure.
(c) Distribution.
(d) Relations to central nervous system.
(e) Functions—Effects of Stimulation.

2. Endocrine.

(Internal-secreting)
(or)
(Ductless)

Glands.

(a) Origin.
(b) Development—Structure—Innervation—Blood Supply.
(c) Functions—Endocrine produced.
Chemical structure.
Action in body tissues.

With all the information available at present, it is not possible to give the precise status which we seek. The reasons are chiefly these: It has not been determined accurately what the distribution and functions of the sympathetic nervous system are, nor have the exact nature and functions of the endocrines been determined.

There is, however, much evidence that various relations exist between the effects produced by the endocrines and those caused by the sympathetic nervous system. This account will by no means consider all of the possible relations of these two factors; but it will attempt to give briefly a few of the most evident and probable.

Sympathetic Nervous System

The nomenclature, arrangement, distribution and function of the sympathetic (autonomic or vegetative) nervous system has long been a subject of much controversy and, at the present time, there are many details which are not generally agreed upon. I shall not attempt to give a very detailed or complete description but shall include only a few of the best known facts con-

cerning this part of the nervous system. Langley's[1] description of this part of the peripheral nervous system is accepted and used by many investigators and authors (W. B. Cannon, C. W. Prentiss), and is probably best known. Langley terms this the automatic nervous system and divides it into the cranial, thoracicolumbar (or sympathetic), and sacral divisions. He describes only an efferent system. The autonomic nervous system may be a developmental vestige from the diffuse nervous system of earlier ancestors or it may be an entirely new acquisition of comparatively recent phylogenetic development. Embryologically, it is developed from the neural crests by migrating neuroblasts. The thoracicolumbar division has a nearly segmental arrangement while the cranial and sacral divisions do not have such an arrangement. The autonomic nervous system consists of a system of neural ganglia and fibers separate from the central or cerebrospinal nervous system. The two are connected, however, by the two groups of the so-called preganglionic fibers. In the cranial and sacral divisions, the ganglia of the autonomic nervous system are irregularly placed, usually near the structure supplied. The ganglia of the thoracicolumbar division are placed in a fairly regular series within the body cavity a few centimeters laterally to either side of the midline upon the posterior body wall. From these ganglia, postganglionic nerve fibers go directly to different structures or to various plexuses and, thence, to the parts which they innervate.

The cranial and sacral divisions of the autonomic nervous system are not as widely distributed as the thoracicolumbar division. The cranial division sends branches to the head including the eye. It sends another large branch, the vagus nerve, to organs of the thorax and abdomen. Stimulation of these nerves causes production of gastric juice (Pawlow[2]) and salivary gland secretions; it gives rise to dilation of blood vessels supplying the glands which produce these secretions. Stimulation of the vagus also causes increase of muscle tone in the alimentary tract. Two further effects of such stimulation are, the contraction of the pupil of the eye and slowing of the heart rate. An interesting fact to notice is, that the nerve from the cranial division has an inhibitory action upon the heart while the corresponding nerve from the thoracicolumbar division stimulates the heart action; but, in the digestive tract, nerves from these centers produce just the reverse effects: the nerve from the cranial division accelerates and the thoracicolumbar nerve inhibits. Higier[4] says that the sympathetic does not directly control the gastrointestinal organs but exerts regulatory functions upon the ganglion cells within the walls of these organs. Cannon[3] calls the cranial division of the autonomic nervous system a conserver of bodily resources. His reasons are that the retina is shielded from excessive light by contraction of the pupil, that the heart is given longer rest periods by a decrease in rate, and that digestion and assimilation are aided by the production of the digestive juices together with the increased tonicity of the alimentary tract. Cannon further classifies the sacral division of the autonomic nervous system as a mechanism chiefly for emptying.

The thoracicolumbar division of the autonomic nervous system, the part which originally received the name sympathetic nervous system, is of very diffuse distribution. It sends branches to many parts of the body which are also innervated by the cranial or sacral divisions. In all cases of such double innervation, the action of each set of nerves is, to produce antagonistic effects. Nerve fibres of this division go to the eyes and cause dilation of the pupils, others go to the heart and cause increase in the rate of beat, some go to the liver and induce release of sugar. Still other fibers go the digestive tract and produce a relaxation or inhibition of digestion. This system supplies blood vessels of the body trunk and viscera, still further reaching fibers go to the erector muscles of the hairs in the skin.

From these facts, it may readily be seen that the sympathetic system is chiefly concerned with activities within the body including such processes as production of glandular secretions, circulation, respiration, digestion and metabolism in general. This is in contrast to the cerebrospinal nervous system which is concerned chiefly with relations of the organism to its environment, although it does exert considerable influence over the activities of the sympathetic nervous system.

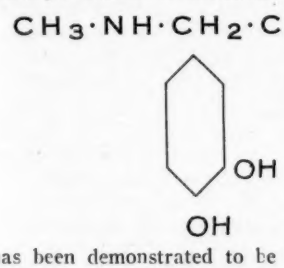
The Endocrines and Endocrine Organs

Recent investigation and literature upon

the endocrine organs is very voluminous. Vincent[5] gives a bibliography of over 2100 references. Schafer[6] gives a very comprehensive, yet, brief account of this subject. Some other authorities are Biedl,[7] Gley,[8] Falta[9] and Cannon.[3]

Endocrines defined — differentiated.— Internal secretions, or endocrines, are usually understood to be physiologically active substances delivered to the blood by the ductless glands and other tissues. At one time, the list of the endocrine organs included the spleen, tonsils and lymphatic organs; but their products are of a morphological type. Since CO_2 is produced by the tissue and causes physiological activity, nearly all tissues might be called endocrine organs. The present definition of an endocrine is, any definite organic chemical compound, produced by a body-organ or tissue and which acts upon some metabolic process of the body. This rules out such morphological units as those produced by the lymphatic organs: the CO_2, which is an inorganic compound; and the digestive-gland products, which are always of the nature of fermentative enzymes and act upon foreign material in the body, such as food. All enzymes are destroyed by prolonged boiling but the endocrines are not. Endocrines are also dialysable.

At least one endocrine has been isolated chemically; it has also been produced synthetically. This is epinephrine, suprarenine, adrenine or adrenaline. Adrenine



has been demonstrated to be ortho-dioxyphenyl-ethanol-methylamine.

This may be tested for, qualitatively, with phosphotungstic acid which produces a blue color even in a very dilute solution of adrenaline.

This substance is very easily oxidized, which accounts for its quick disappearance in the blood. Schafer[6] suggests the name excitatory autocoids, or "hormones," for endocrines of a stimulating nature, and the name "chalones" for autocoids of a depressing nature. The term autocoid is generally used interchangeably with endocrine.

Organs Producing Endocrines.—The present list of endocrine organs includes the epiphysis, the pituitary, the thymus, the thyroids, the parathyroids, the adrenals, the pancreas, the ovaries, and the testes. This list includes two glands with ducts: the pancreas and testes. Nevertheless, it has been demonstrated that these glands do furnish secretions which do not pass out through the ducts but are delivered directly to the blood stream. This is proved, experimentally, in the case of the pancreas by ligating the pancreatic duct. Removal of the pancreas very soon produces a rapid and fatal diabetes. But, with ligation of the duct, diabetes does not ensue, thus showing that diabetes is not caused by lack of pancreatic products delivered via the duct. If the pancreas is removed some time after being ligated, a fatal diabetes at once sets in. This shows that some secretion had been delivered to the blood by the pancreas even with the duct ligated.

Relative Importance of the Endocrines.— The autocoids produced by the epiphysis, thymus, ovaries and testes, while essential to normal body metabolism, will not be discussed at any length here owing to the lack of experimental and clinical work with them and to the necessary brevity of this paper. It may be said that functions of the endocrines of the epiphysis and thymus are but little known and that they are, relatively, the least important of endocrine organs. Much work has been done upon the ovary and testes, sufficient to indicate that they exert a great influence upon the general metabolism of the individual. The most important endocrines are:

Thyroparathyroid Group	Suprarenal Group	Pituitary Group
Parathyroids.	Cortical portion of adrenals.	Epithelial portion pituitary.
Thyroid.	Medullary portion of adrenals.	Epithelioneural portion pituitary.

Methods of Studying Endocrine Activities.—Partial or complete removal of the endocrine organ, surgically or accidentally, failure of normal development, and pathological destruction of the organ afford means of observing the individual's reac-

tions in the absence of the particular endocrine.

Administration of the gland tissue or of extracts, by mouth or hypodermically, surgical transplants and overdevelopment of a particular gland furnish a method of determining the individual's reactions to a surplus of the endocrine concerned. Cannon, Meyer & Gottlieb[10] and others have isolated organs or parts of organs of the body and then applied the endocrines to learn the effects produced.

The Parathyroids

The parathyroids are developed, embrylogically, as evaginations, from the entoderm of the third and fourth visceral pouches.

There are usually four in number. In the adult, these glands are found just posteriorly to the lateral lobes of the thyroid. They are from 0.5 to 1 cm. long, 2 to 5 cms. wide and about 2 cms. thick. This gland has a thin connective-tissue capsule within which the cells are arranged in irregular groups or cords. The cells are spheroidal, cuboidal or pyramidal in shape.

Schafer[6] says that the parathyroid probably produces a chalone which is antagonistic to a hormone produced by the thyroid, and also antagonistic to the adrenal endocrine. He says further that the work of those endocrines is, to balance the activity of the sympathetic nervous system. The chemical nature of this endocrine has not been determined.

Removal of the parathyroids causes death by tetany. Falta[9] has shown tetany to result from an overirritability of the nervous system in the sensory and vegetative parts. This would indicate that the parathyroid endocrine exerted a regulatory effect over certain nervous discharges. That it is not nerve or reflex paths which cause tetany but that this is due to the absence of the parathyroid endocrine, is shown by the fact that an isolated parathyroid gland, which has been successfully transplanted between the abdominal fascia and musculature, will serve the function of a normally placed parathyroid and will prevent tetany.

The Thyroid

The thyroid originates in the embryo as a ventral diverticulum in the ventral entodermal wall of the pharynx at about the level of the fourth visceral pouch. The gland develops in two lobes, each lying laterally to the midline at the anterior surface of the trachea, a few centimeters above the clavicle. The lobes have a connective-tissue capsule from which trabeculæ pierce into the gland body. The alveoli are usually lined with a single layer of cuboidal cells. The alveoli are filled with a colloid material.

The blood supply of the thyroid is extremely rich, the organ being exceeded only by the adrenal bodies in richness of circulation.

According to Schafer[6], death occurs within thirty-seven hours after extirpation of the thyroid, although other writers declare that the gland is not essential to life. The exact chemical structure of the thyroid endocrine is not known. Oswald has shown the thyroid secretion to be a combination of two substances, iodothyreoglobulin containing iodine, and a nucleoprotein. Fat metabolism, especially, is affected by the thyroid autocoid. The thyroid apparently supports the adrenals in opposing the pancreatic hormone. The pancreatic secretion prevents the organism from being inundated with sugar, by causing the sugar to be removed from the circulation and stored in the liver as glycogen. Adrenalin stimulates a release of glycogen from the liver, thus raising the sugar content of the blood. The thyroid hormone stimulates the katabolism of fat and protein.

Clinical demonstrations of cases of thyroid hypofunction are typical in cretinism and myxedema. A child with hypofunction of the thyroid does not develop symptoms for some time after birth, due to the secretion having been supplied by the maternal blood stream. Evidences of improper development may be noticed, however, within the first few years of life. The typical symptoms are, an arrest of growth, large abdomen, depressed nose, podgy hands and feet, weak muscles, the fontanelles may remain open, together with incomplete ossification of other bones of the body. The individual is frequently deaf and mute. Interference in other metabolic processes is indicated by a general tendency to obesity with a great increase in sugar tolerance.

As a rule, this condition produces a general apathy and sluggishness of the nervous system. In fact, these individuals are idiots. Histological examination reveals a shrunken condition of the cortical cells of the brain. There also appears to be a chromatolysis in these cells. Early administration of thy-

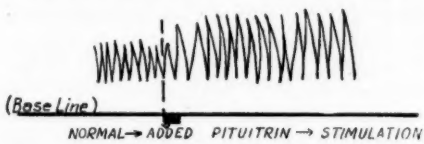
roid gland, or of its extracts, does much to alleviate these conditions.

Associated with hyperfunction of the thyroid, we have increased excitability of the cardiac vagus and of the nervous system in general. There is also a characteristic exophthalmic condition and dilatation of the pupil, referable to sympathetic excitation. Hyperfunction is treated by partial removal of the thyroid or by ligation of some of the blood vessels supplying the gland.

Animal experimentation has revealed that removal of the thyroid in very young animals inhibits their growth; this may amount to as much as 50 percent. Removal of the thyroid causes an increase in the development of the pituitary body. This would indicate that the secretions of the pituitary and thyroid gland produce endocrines of similar functions. Thyroidectomy decreases the activities of the adrenal glands.

The Pituitary

The pituitary gland, or hypophysis, is a compound structure. It has two embryological sources of origin. The posterior lobe arises from an evagination of the infundibulum of the diencephalon. The anterior lobe arises from an evagination of the ectoderm in the dorsal wall of the oral cavity. The two lobes fuse early in the embryo.



Tracing illustrating typical effect of pituitary extract upon section of intestinal muscle beating rythmically in normal blood or Ringer's solution.

It is possible that the pituitary secretion, in part at least, is discharged into the cerebrospinal fluid.

Removal of this gland is usually followed by death; but, animal experimentation has shown that an animal may live for a considerable time after removal of the gland. Such animals are always dwarfed in stature, if the gland is removed while the animal is very young. In these cases, the bony structure is not fully developed. There is a tendency to adiposity which is thought to be due to an increased sugar tolerance, as in thyroidectomized animals.

In pathological cases of enlargement of this gland, we may find an impairment of vision. This is due to no changes in the retina or other nervous mechanism of the optic apparatus, but is caused by mechanical compression upon the optic chiasm by the enlarged gland. After a continued hypertrophy of the hypophysis, the condition known as acromegaly, or elephantiasis, is observed. Characteristic of this condition is a general enlargement of the bones of the extremities and head. Most noticable is the protrusion of the mandible which is brought about by its becoming enlarged.

In the young animal, atrophy of the hypophysis produces conditions similar to those caused by removal of the gland.

The pituitary endocrine, when administered to the normal individual, causes a rise of blood pressure. This is not due to action upon the nerve endings but is affected by direct action upon the blood vessels themselves. The heart rate is decreased while its force is increased. It appears that the pituitary secretion accelerates the deposition of calcium salts in the body as shown by cases of acromegaly.

An interesting experiment is reported by Clark.[11] In this experiment, observation was made upon 655 chickens. For four days, these chickens produced 233 eggs and, in a succeeding period of four days during which pituitary gland was fed, 352 eggs were obtained, or an increase of about 66 percent.

Here, of course, calcium-salt production was increased, but the relative increase in the production of other substances was greater.

The Pancreas

Initiation of the growth of the pancreas takes place as out-pouchings from the duodenal portion of the intestine. In the adult, the pancreas is found as a slender and very irregularly shaped gland embedded within the greater omentum. Attention has been called to the fact that this endocrine organ has a duct and that the endocrine is not discharged through the duct.

The histological section of the pancreas shows the structure of a compound alveolar gland. The walls of the alveoli are composed usually of pyramid-shaped cells with large basal nuclei.

Within the alveoli of this gland, are characteristic areas known as islands of Langerhans. These are irregularly shaped areas

of compactly arranged secretory epithelial cells.

To these cells is assigned the function of endocrine production. Clinical cases of diabetes coming to necropsy always reveal an abnormal condition in the islands of Langerhans, most probably a degeneration. Hypofunction of the pancreas can not be successfully treated, however, by the administration of extracts of the gland nor by transplants.

Extirpation of the pancreas produces a rapid and fatal diabetes. In this connection, a remarkable animal experiment was done. In an animal which had been thyroidectomized, the pancreas was removed but diabetes did not develop. This experiment agrees with the functions assigned to the endocrines. The removal of the thyroid increased the carbohydrate tolerance which permitted the animal to cope with the increase of sugar in the blood caused by removal of the pancreatic endocrine. Theoretically, this would suggest thyroidectomy for diabetic individuals but, apparently, such treatment has not been investigated.

The Adrenals

The adrenal glands arise from the mesodermal genital ridge in the embryo and in the adult are found as a "cap" on either kidney. Because of their position, they are sometimes called the suprarenal bodies. The glands are composed of two portions histologically. A medullary portion which contains chromaffine cells and which, Balfour suggests, may arise from the neural crests similar to the origination of the sympathetic ganglia. Because of such an origin, Elliott[12] holds that innervation of the adrenals should be of a preganglionic nature. This would be in contrast to the innervation of other endocrine organs which is of postganglionic type.

The outer portion, or cortex, of the adrenals is composed of a cordlike arrangement of nearly cuboidal epithelial cells. Schafer[9] suggests that this portion of the gland may produce lipoids and be especially related to the development of the myelin sheaths of nerve fibres. Neuman claims the adrenals to have the most abundant blood supply of any part of the body, the influx being 6 to 7 mils per Gram per minute.

Removal of the adrenals causes death within two or three days; death in this case being preceded by lowering of blood pressure, pulse, temperature, respiration; convulsions occur also.

Pathological changes usually cause hypofunction of the gland and produce the malady known as Addison's disease. One of the characteristic symptoms of this disease is, the yellow or bronze color of the skin. The discoloration of the skin usually occurs in irregular areas. Addison's disease terminates fatally after a brief course. Treatment by the administration of gland substance or its extract has no effect on the course of the disease.

Cannon[3] has studied the activity of the adrenal at considerable detail. Previous to this, Dryer had demonstrated that stimulation of the splanchnic nerve caused an increase in the production of adrenine.

Cannon's experiments on animals showed a stimulation of adrenine production in fear, pain, rage, and emotional excitement in general. A biological method was used to determine the adrenine present. The apparatus consisted of a strip of intestinal muscle suspended in the blood under test. This apparatus detects the presence of adrenine one to 200 million parts. Movements of the muscle were recorded automatically upon a revolving drum. Normal blood permitted the muscle to go through a regular rythmic series of contractions, but b'ood having a higher percentage of adrenine inhibited the contractions of the muscle and, with some samples of blood, the movements of the muscle were stopped entirely. Increase of adrenine in the blood is always associated with an increase of sugar in the blood stream.

Under ordinary conditions, the blood contains 0.06 to 0.1 percent of sugar but, if the sugar content rises to 0.2 or 0.3 percent, the kidneys excrete a part and glycosuria results.

Several cases in the human have been observed which show that emotional excitement increases secretion of adrenine. In one case, a group of nine students, normally sugar-free, four had glycosuria after a hard examination; in an easy examination, only one of this group of students had glycosuria. An account is given of a German officer in the recent war who, by his participation in a stressful action, received both the iron cross and diabetes. Other instances are given which attribute the cause of diabetes to emotional excitement.

In these cases, the glycosuria is due to the increase of circulating adrenine.

Besides liberating sugar into the blood and relaxing musculature of the alimentary tract, adrenine drives the blood from abdominal viscera to the heart, lungs, central nervous system, skeletal muscles, and skin. Animals in which the adrenals have been removed do not exhibit the characteristic emotional reactions, i. e. glycosuria, flushing of skin and erection of hairs. Langley says that, as a rule adrenine acts the same as a stimulation of the sympathetic nervous system. Elliott confirms Cannon's statement: "It is possible that disturbances in the realm of the sympathetic, although initiated by nervous discharges, are automatically augmented by adrenine."

The tracing illustrated here shows the typical effects of adrenine upon an isolated

section of intestine which is rythmically beating in normal blood or Ringer's solution.

Investigation of nerve fatigue has revealed that, in case of fatigued nerves, the threshold of stimulation rises as much as 600 percent. Rest restores the normal threshold in 15 minutes to two hours; but, by administering small doses of adrenine, the normal threshold may be restored in three to five minutes. Muscle fatigue is similarly allayed much more quickly by the use of adrenine.

Conclusions

The more we investigate the relations of the activities of the endocrines and the activities of the sympathetic nervous system, the deeper we seem to sink into an intangible maze. How are we to interpret and interrelate these relations? Many of our most definite facts have developed simply from theoretical deductions and held as such until proof was supplied. Many theories have fallen by presentation of conclusive evidence of disproval; but other theories have held true. Then, to proceed we must ask questions and formulate plausible answers to them. We may ask why is the human body complicated by the presence of the endocrine organs since, in general, they serve only to take up a part of the duties of the sympathetic nervous system? Why not transfer all the work upon the nervous system and do away with these numerous and delicate helpers which so frequently cause trouble through pathological or abnormal conditions? One plausible reply to these and other related questions may be in the following:

Nervous energy represents the highest development of bodily activities and is probably produced at greater expense than any other of the body energies. Therefore, it is quite probable that the endocrine glands are added to serve the function of conserving nervous energy. It has been demonstrated, in the case of at least one of these glands, that its greatest action is in times of greatest nervous excitation, and that the function it serves is in part similar to that of the nervous impulses. For example, with the increased output of adrenine, in fear, pain and rage, there is the liberation of sugar into the blood stream, the transfer of much of the blood into the central nervous system, heart, lungs and skeletal musculature in preparation for physical and mental exertion, such as the body may well expect to follow these emotions. All of these activities could have been produced by simple nervous stimulation; but, in cases where such activities are prolonged, it is apparent that the demands on the nervous system would be excessive and fatigue would result very early. This probably presents an insight to the primary and chief relation in question, although there is no doubt that other important relations exist.

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What Others are Doing

OPOTHERAPY OF CANCER

In two cases of cancer of the face, Doctor Naame (*Gaz. des Hôp.*, Feb. 5, 1921) has observed satisfactory results from the administration of thyroid and ovarian substance. Both patients were eighty years old. The malignant growth was on the bridge of the nose; in one case, to the left, involving the inner canthus of the eye; in the other case, centrally, involving the root of the nose.

Doctor Naame concludes that thyroid substance is indispensable in the treatment of cancer; and that, according to location and sex, it should be supplemented by mammary substance, suprarenal substance, ovarian, orchitic substance, and so forth.

WHEN TO USE THYROID EXTRACTS

From a very meaty review by Hutton (*Ill. Med. Jour. Dec.*, 1920) we learn that the usual signs of thyroid insufficiency are: subnormal temperature, cold extremities, dry or scaly skin, brittle hair and nails, mental sluggishness.

Thyroid extract in small doses produces a rise of temperature, quickened metabolism, increased appetite with improvement in the general nutrition and stimulation of growth. A reliable preparation is useful in:

1.—Diseases due to slowed destruction of toxic wastes; as, tetany, epilepsy, eclampsia, disorders of the menopause, asthma.

2.—In diseases due to lowered general nutrition of all tissues, including the bones; as, cretinism, myxedema, osteomalacia, rickets.

3.—In disorders due to lowered nutrition of the muscular elements; as, general adynamia, neurasthenia, myasthenia.

4.—In all cases in which the processes of repair or absorption are deficient; as in delayed union of fractures and bone necrosis.

There are two tests for hypothyroidism; the therapeutic and the metabolic. In suspected cases, if 1 grain, three times a day for two weeks, does not result in an improvement of the patient's condition, the test is negative. The metabolic test is more accurate; it comprises the calculation of the hourly heat production and comparison with known normal standards. A disparity in excess of 10 percent points to thyroid insufficiency.

When subthyroidism is combined with an adrenal minus condition, these symptoms are frequently subjoined: persistent pains in the neck, spine and lumbospinal region.

[We have often noted undesirable effects from the dose recommended; even from 1 grain at night, when half that amount, ½ grain at night, did much good.—Ed.]

WHEN TO GIVE ADRENAL EXTRACT

The function of the adrenals, says Hutton (*Ill. Med. Jour. Dec.*, 1920) is, to sustain respiration. They also regulate the tonicity of unstriped muscle, including the blood-vessels. Hypoactivity of these glands, or insufficiency, results in muscular weakness, emaciation, low blood pressure, weak heart and pulse beat, constipation, sensitiveness to cold, pallor, mental fag. These signs call for the use of adrenal extract medicinally to make up the physiologic deficit.

A good preparation serves well in surgical heart failure, asthenia, muscular weakness, cardiac disorders due mainly to atonicity; also in capillary hemorrhage and toxemia.

The best clinical test disclosing adrenal insufficiency in the person is, Sergent's white line. To make it, have the person lie quietly upon his back for a little while, to secure perfect relaxation and composure, then stroke very lightly with the palmar surface of the index finger the skin of the abdomen or thigh. In from ten to twenty seconds, a blanching of the skin thus stimulated will show itself.

Overactivity of the adrenals is less often encountered in practice; at times, it declares itself in terms of glycosuria or pul-

monary edema. It may figure also as a causative factor in some pychoses.

The use of these glands, clinically, has been restricted almost entirely to the active principle, or hormone, isolated from them. This hormone, adrenalin, or suprarenalin, or epinephrin, as it is variously called, is highly esteemed as a remedy in bleedings; as, during and after operations. It acts by constricting the vessels and favoring coagulation. For treating uterine inertia, it has given way to pituitary solution which maintains its favorable vascular effect longer and quite as well.

SIGMOID IMPACTION

"That the removal of the appendix and many other abdominal operations, whether for adhesions, ptosis, duodenal and gastric ulcer, has been made and is being made today, without justification of the true existing pathology, is generally conceded. In the present light of our x-ray findings, unless in 'emergency cases,' opening the abdomen with surgical intent is a moral crime and should be considered as having a legal aspect as well. The major part of operating with the knife in the abdomen is usually confined to the region about the cecum, the gall bladder or the duodenum where so many lives are saved and so many postoperative effects make invalids for life out of many tolerable cases."

This assertion is made by Dr. F. H. More, of Boston, (*Amer. Jour. of Electrotherap. and Radiology,* Feb. 1921) who continues to say that the sigmoid flexure and, in fact, the entire lower portion of the pelvic colon is little amenable to surgery, while prolapse of the descending colon associated with more or less sigmoid impaction urgently demands relief.

The author's investigations by means of radiographs have satisfied him that a large proportion of patients who are treated for cystitis, recurrent prostatitis, hemorrhoids, uterine misplacements, socalled catarrhal salpingitis of the left side, are the direct result of the pelvic colon trying to occupy the space of the organs showing inflammatory irritation.

Strictures and cancer, ulcers, or even an inflammatory condition (which is too often styled mucous colitis) from the splenic flexure of the colon to the rectum are usually the effects of the distortion and distension and diversion of the normal course and direction of the pelvic colon. Any physician of knowledge and experience realizes that, in the most acute and obstructed areas of the colonic track (unless it can be made to function normally or approximately so) malignancy must sooner or later result.

In this condition, surgery is unavailing. Cathartics make the impaction worse, augmenting the atonic condition. In consequence, the treatment must be dietary, mechanical, or must consist of a combination of mechanical and electrical local invigoration of the more or less paralyzed section of the gut. Temporary abdominal supporter with specially prepared pads may correct mild cases.

The author has found that profuse colonic flushing and reeducation of the weakened muscles bring about satisfactory results. He accomplishes the latter through direct rectal application to the seat of threatened obstruction, declaring that this can now be done safely, intelligently and with definite muscular action since the use of the alternating current has been brought under control, so that a large amount of muscle stimulation can be used without any possible harm to inflamed mucous membranes as compared with the interrupted or reversing galvanic current which has been depended upon in times past.

TONIC TREATMENT IN TUBERCULOSIS

It is now generally recognized that much rest, good food and fresh air are not sufficient to induce a recovery from pulmonary tuberculosis—or from any other form of tuberculosis, for that matter. Not only is it essential that the patient, his or her individuality, mentality, and so forth, receive close and continued attention, but it is no less indispensable to increase the tone of the system, the functioning ability of the circulatory organs as well as that of the assimilative and eliminative organs.

Several of our recent contributors have described their favorable experiences with the employment of various "tonic" combinations, most of which contain iron, while others carry sodium cacodylate. It was of interest to us to find in an article contributed to the *Therapeutische Halbmonatshefte* (Sept. 15, 1920) some very encouraging observations that were made in the practice of Dr. L. Veilchenblau.

The doctor orders sodium cacodylate, 1

Gram, strychnine nitrate, 0.01 Gram, distilled water to make 20 mils.

Of this preparation, he injected increasing amounts twice a week. The first dose was 2/10 mil; the second 4/10; the third 6/10; the fourth 8/10; the fifth 1 mil. The eleventh dose was then reduced to 8/10; the twelfth to 6/10; the thirteenth to 4/10; and the fourteenth was 2/10 mil.

The author claims that this combination of sodium cacodylate and strychnine nitrate is a remedy far superior to hydrotherapy and to sedatives in neuroses of the heart. In various cases of heart neurosis, also in hysteria, and, further, in tuberculosis, the tonic effects of the treatment were decided. In the latter instance, the remedy very naturally is not an "etiologic" one but is simply supplementary. However, it seems to us that the combination of a tonic associated with a stimulant fully explains the splendid results recorded by the author in his article.

THE FOUNDATION OF RACHITIS THERAPY

According to Ernst Schloss (*Therapie der Gegenwart*) the therapeutics of rachitis requires consideration of the following points:

1. Socalled specific therapy which consists in the employment of products of endocrine glands, also phosphorus and cod liver oil.
2. A complementary or compensatory therapy consisting in the administration of lime and phosphoric acid.
3. The dietetic therapy which aims to influence directly the metabolism.
4. The constitutional therapy which attempts to raise the general vitality of the body, especially that of the growing bony structures.
5. The special physical therapy which is to prevent or to influence individual manifestations and symptoms of the disease.

THE ABUSE OF PHENOPHTHALEIN

In the *Therapeutische Halbmonathefte* (June 1, 1920), Leo Silberstein calls attention to injurious effects resulting from the laxative remedies containing phenophthalein. He himself experienced injurious symptoms after taking tablets containing this substance, more especially stomatitis and herpes-like eruption on the leg.

He reports the case of a woman who complained of general lassitude, want of appetite. On both eyes, there were red discolorations consisting of minute suggillations. In addition to the symptoms enumerated, there was frequent urination, although the urine did not contain albumin.

It is to be kept in mind that phenophthalein is not an absolutely harmless remedy and that it should be prescribed with care.

DIGITALIS THERAPY

The proper administration of digitalis, Eggleston says, demands the ability to judge the degree of digitalization which is being produced; because all of the digitalis bodies can cause serious poisoning and because the nature of heart failure is such that incomplete recovery or death may result from inadequate treatment. The more important criteria by which the degree of digitalization can be judged are discussed. Of the many proprietary preparations and specialties which are offered with high claims for oral administration, none is superior to the powdered leaf or tincture of high grade, and most are decidedly inferior—in Eggleston's opinion. All are quite costly, and the price of some is exorbitant. If one feels impelled to employ one of these, Eggleston says that digipuratum or digipoten will be found to be the best, but these are merely carefully assayed, purified preparations from good digitalis leaves.—[From *J. A. M. A.*, Jan. 22, 1921, abstracted from *Am. Jour. Med. Sciences*, Nov., 1920.]

"CYANOSIS"—ARGYRIA

In an unusually interesting article published in the *Boston Medical and Surgical Journal*, for December 9, 1920, Dr. P. R. Withington relates the case of a cyanotic engineer who was sent by his "boss" to an insurance office where he was "to see if his heart condition made it safe for him to operate his locomotive." A casual examination of heart and lungs was entirely negative. Doctor Withington had him go to his office for a fuller physical examination. To his surprise, his blood examination was not abnormal. A Wassermann test was negative.

Doctor Withington was at a loss, but went over his history again more carefully; it gave him the solution, and shows the advantage of taking full and careful histories. The patient had had frequent attacks of in-

digestion for which there had been given silver-nitrate tablets, with relief. Thereafter, he had taken them "ad libitum." It is hardly necessary to add that the "cyanosis" was in reality argyria.

SYPHILIS OF THE VAGINA

That a leukorrheal discharge should never be treated merely by antiseptic and deodorant injections but that its origin and nature should be ascertained, is illustrated in the case of a young colored woman concerning whom Dr. R. A. Bartholomew presents a report in *The American Journal of Syphilis* (Oct., 1920).

P. B., colored, aged seventeen, was sent to the hospital with a diagnosis of irregular bleeding due to placenta previa. The last period was said to have occurred seven months previously. She had been married nine months and had always been in good health.

The pregnancy had progressed normally up to about one month before admission, when she began to have a foul leukorrheal discharge, which about two weeks later became associated with irregular bleeding. A physician, who was called in, diagnosed placenta previa.

Physical examination was unenlightening. Vaginal examination showed no external scars or ulcers, no lacerations. The lower part of the vagina was normal, but *the entire vaginal vault was converted into one large circular ulcer.* The process involved principally the vault and affected the superficial portion of the cervix.

An examination of the patient's blood showed a four-plus positive Wassermann reaction, while some tissue that had been removed showed pathologic changes indicative of syphilis.

The patient was put upon intensive antisyphilitic treatment and upon local treatment consisting of one percent lysol douches, three times daily. She experienced rapid improvement and was delivered, somewhat before term, of an apparently healthy baby. A sample of blood from the cord showed a two-plus Wassermann reaction.

Both mother and baby were treated by inunctions during the following two weeks in the hospital, at the end of which a Wassermann test on the mother was negative. During this time the husband's blood was tested and a four-plus Wassermann was obtained. He gave a history of primary sore in June, 1918, for which he had received "some treatment" in the army.

WIFE ALLOWED DAMAGES AGAINST HUSBAND FOR VENEREAL INFECTION

The North Carolina Supreme Court has affirmed a judgment allowing a wife to recover damages from her husband because he had infected her with a venereal disease. It was argued by the husband that the fact of marriage constituted a bar to the action; but the court held that under the statutes of North Carolina a wife could maintain an action against her husband.—From *Public Health Reports,* March 18, 1921.

BACTERIAL VACCINES NOT INFALLIBLE

The organism can overcome a bacterial disease—no matter of what kind—only if its immunized against it. Certain organisms resist spontaneous immunization as well as therapeutic vaccination. During the war, we saw a certain number of typhoid patients die without any complications having appeared. Their serum failed to agglutinate typhoid bacilli even in 1:10 dilution, the test bacilli having been isolated from the blood of the patient. It is therefore not astonishing that vaccine therapy may fail to produce results in a certain number of cases. Yet, that does not argue that this form of treatment is useless.—Tixier and Rochebois, in-*Gazette des Hôpitaux,* Jan. 29, 1921.

VACCINE TREATMENT OF PERTUSSIS

Dr. Robert K. Kewalt (*Pa. Med. Jour.,* Mar.) concludes an article on the subject named in the title by declaring that:

1. The vaccine treatment of pertussis is the most valuable treatment at the present time, regardless of its failures.
2. No definite promise of a rapid cure should be made, because as yet we have much to learn concerning this treatment.
3. Larger doses and shorter intervals should be employed.
4. In the majority of cases, the symptoms are made lighter and the course of the disease is materially shortened.
5. A decided effort should be made to obtain fresh vaccines to be used in the treatment of pertussis.

Let's Talk it Over

A Tribute to Dr. Beverley Robinson

IN CLINICAL MEDICINE for January, p. 48), Dr. Beverly Robinson, who frequently honors us with contributions that are always characterized by great wisdom and dictated out of his rich experience, wrote feelingly about the old practitioner who has retired and whose counsel and advice no longer are sought by his younger colleagues. In commenting upon Doctor Robinson's remarks, we expressed our conviction that such a fate would never be his but that his advice would always be welcomed gratefully by those physicians fortunate enough to secure it.

In course of time, we received a letter from another contributor, Dr. J. W. McCready, of New York, who fully confirmed our opinion and who expressed such a graceful and well merited tribute to Doctor Robinson that we are happy to reproduce it. Doctor McCready says:

—

Why should we wait until he dies before we tell the world what we think of Dr. Beverley Robinson and his beautiful characteristics?

From my intimate association with this great man, I am in a position to contribute some facts that will be of value to every physician who has not been fortunate enough to have met and consulted with him.

I can fancy I see him now sitting by the bedside of a patient, oblivious to his surroundings, listening intently to the patient's story and tell the patient to "go on", go on, go on, and go on; as though he or she were telling the most fascinating story. For the time being, that's just how he feels, as he has told me that he has gained more knowledge from the patient's telling his or her own story in his or her own way, without interruption, than any knowledge from books or consultation with physicians.

He never fails to gain the confidence of the patient and he always assures them that his advice to the attending physician will be the very best that he can give.

After the examination and advice as to treatment, he next inquires if the patient can afford to pay his regular consultation fee, and, if not, how much, if anything. The attending physician is then asked if he has been paid any money, or whether or not he will be paid. If the answers are negative, he then proposes that his bill goes with that of the attending physician to be paid later on. This goes to show the nature and generosity of the man.

A few months ago, during his wife's prolonged illness, and after her death, Doctor Robinson had become greatly depressed and, I think, wrote the letter published in CLINICAL MEDICINE under the influence of his discouragement. Mrs. Robinson had probably done more charity work during her lifetime than any other woman in New York. In fact, both devoted their lives to works of charity.

One week before Mrs. Robinson's death, I asked the doctor to see a very sick patient in consultation with me. Without hesitation, he left his own dear wife with the nurse and visited my patient. His visit and advice were beneficial to the patient as well as myself. This is only one of his many little acts of kindness. Eight years ago, when I had pneumonia and influenza, it was Dr. Beverley Robinson who saved my life after others had failed.

For the past thirty years, he has been my friend and has never refused to see a patient in consultation. I think more of his advice than of that of any other man in the medical profession.

Doctor Robinson is always generous with the family physician and with his patient. To establish this fact beyond question, kindly allow me to give the history of a pneumonia case. Mr. R. H. ——, of New

York City, 60 years of age, developed pneumonia of the left lung. I gave the usual treatment of oxygen inhalation from the first day of the disease. All went well until the sixth day, when I found that the pneumonia had extended to the other lung. Temperature up to 105.8 degrees, respiration 60 to 70, pulse 150. At this stage of the disease, I asked Dr. Beverley Robinson to see the patient with me. He confirmed my diagnosis and treatment, but advised small repeated doses of strophanthus; also, he told me that I must give more stimulant as the pulse was bad. On hearing that I was giving whisky, ½ ounce every two or three hours, he suggested that it might be that my whisky was not of good quality; that, if I would go home with him, he would give me some of the best brandy that money could buy, and it might be an aid in saving the patient's life. It was the doctor's last bottle, but he gave me more than half of it just the same, telling me to come back and get the balance if required. On my return with the brandy, I found the patient much worse. The nurse, in her anxiety, had tried to improve the pulse which had become so weak that it could not be counted, and had made the almost fatal mistake that so many of us make—had given nitroglycerine, gr. 1/100, with the result that the pulse after a short time was weaker than before. Another gr. 1/100 had been given with no better result. The respirations were so rapid that the patient could not swallow, so that nothing had been given by mouth for several hours. For a time, I gave the patient brandy with a medicine dropper. Just a little under the tongue. Also, I let the oxygen play over his face and into his mouth and nose. This treatment was continued until the pulse and respiration improved. At the end of four hours, he took a teaspoonful of black coffee. This was the turning point. The brandy and oxygen were continued and the patient recovered.

One more generous act and I am through, although I could write all night on the many good acts that this great doctor has done.

Doctor Robinson has given me many books and instruments with instructions that, when I had finished with them I was to hand them on to the younger men of the profession.

You know that Doctor Robinson was educated in France, and, during the second siege of Paris, 1871, he was connected with one of the hospitals and did much outside practice among the poor, both surgical and medical. The pocket case he carried during that time was presented to me and I am proud of its ownership.

I trust that Doctor Robinson will be given health and strength to continue many years in his great work.

J. W. McCready.

New York City.

[To this wish expressed by Doctor McCready, we subscribe most heartily. Doctor Robinson, one of the few living physicians of the old school, physician in the most beautiful meaning of the word, deserves our grateful affection in full measure. We add the other hope that he may often feel impelled to contribute out of his rich store of knowledge to the reading pages of Clinical Medicine.—Ed.]

TREATMENT OF PLEURAL EMPYEMA[1]

The mechanics of respiration are accomplished by anatomical movement of the chest walls and muscles of the diaphragm. When we remove one or more ribs, we disturb the anatomical plan of the chest wall and the respiratory movement of one lung is disturbed so that the lung is allowed to collapse by external air pressure. Dr. Elder and his associates, in hospital practice at the Montreal General Hospital and in extensive war service, found that, by inserting a small tube or catheter into the inter-rib space through a small wound or trocar puncture, sewing it in position, then removing any fluid present by aspiration and injecting a solution of 1:3000 of flavine, they would prevent this calamity. On the distal end of the catheter, or tube, a glass bulb is placed, tapered at each end so that the catheter fits it; on the opposite end, another tube connects with the aspirating syringe. When the fluid is completely aspirated, the cavity is filled with 1:3000 flavine solution. If any surplus of this is returned through the tube, a clamp is placed on the catheter between the bulb and the body and the bulb pumped as free from air as possible. Then a clamp is placed on the distal end from the bulb and the clamp taken off

[1]Tuesday Clinics, Montreal General Hospital. Service of Dr. Elder.

between the bulb and the body. This exerts some suction on the chest cavity and, as soon as the bulb is filled (which requires on an average two hours) it is emptied by putting a clamp between the bulb and the body. The emptying of the glass bulb creates a vacuum again and the process is repeated a sufficient number of times until the purulent discharge is all removed. The cavity is then filled with an emulsion of flavine. This emulsion is made in the following manner:

Acriflavine	0.5 Gm.
Thymol	0.005
White Bees Wax	20.
Liquid Petroleum	380.
Aqua Destillata	95.

After this emulsion is injected, the tube is withdrawn and gauze packs of alcohol, 70 percent, are placed over the wound, being held in position with adhesive plaster. This gauze is kept wet from time to time with 70-percent alcohol and changed as often as necessary to take care of the escaping emulsion.

This treatment has been found very satisfactory in securing good end results in empyema.

GRANT HOUSTON.

Joliet, Ill.

THE TREATMENT OF CANCER BY INTERNAL MEDICATION

Some years ago, I sent you a paper giving my experiences with a method of treating cancer.

As Charles Darwin perfected his hypothesis of the origin of the species, and laid it away for forty years before publishing it. so I had experimented, and proved to my own satisfaction, that cancer can be cured, or at least indefinitely held in check, by the internal administration of medicine, twenty-five years before I sent you that paper.

For a long time, you debated as to the propriety of publishing my report. Finally, you said, "Have we a remedy for cancer? If we did not know Doctor Cope personally, we should not publish this. Do not allow yourselves to be misled. The knife is the sure way." Less than a year later, though, you sent me a copy of a letter from a doctor in Florida giving results in a supposedly hopeless case of cancer by the action of anemonin and phytolaccin.

From time to time, I have cancer cases come to me for treatment, and obtain the same good results. So, I conclude that there must be something potent for cancer in these remedies.

In my first paper, I told the doctors that I did not know what it was in these remedies, in such small doses, that fed the hungry cells as milk feeds babies. I placed in your hands a lighted torch, enjoining you to lift it high and to carry it. For, I am an old man; to you is the work.

Since then, no one has spoken. How much careful, quiet work has been done, I know not. I believe that there has been much, for, the subject is too vital to be thrust ruthlessly aside.

The surgeon has done his part; but, even he fails. I read a report from an institute where more than 2000 autopsies had been made after operation for cancer. Surely, the surgeon has been "weighed in the balance and found wanting."

After much study and research, reading and cogitation, I am more and more convinced that there is something, that splits up the cells containing pathogenic bacteria. This is done usually by biologic remedies. While these give the white corpuscles a chance to manifest their phagocytic action, they also set free certain toxins that are inimical to red-cell growth; hence the failure to cure. Something must now come into play to reinforce the red cells.

It has been shown by those studying this phase of the case that chlorophyl is the agent that is required here. We know that chlorophyl and sunlight in our high northern latitudes are the agents that convert the hard rocks into alluvial soil, favored by the growth of moss so universal in Alaska and in the tundras of Siberia. Is it too far a cry from the hard rock to the cancer growth?

At this stage of the game, a reinforcement must be called up to destroy these toxins. It has been shown by those studying this phase of the case that chlorophyl is the agent that is necessary here.

Are we overbold to infer that chlorophyl is the agent that destroys harmful influences preventing the normal growth of tissue? Can it be that chlorophyl is the key to unlock the lips of the sphinx and do we hear it say, "This is the way. Walk thou in it." Can it be that pulsatilla, phytolacca, anemonin, carry a large content of chlorophyl, sufficient at least to modify cancer growth?

These are but suggestions. May they

interest those who care to prove or disprove the claim.

C. S. COPE.

Tacoma, Wash.

OVER THE BORDER.

She is waiting, over the border,
In the region just beyond,
  Has passed thru the gate,
  Over there she will wait,
My Mother, loving and fond.

She is watching, over the border,
In the land of summertime,
  She is happy and free,
  And is watching for me,
To come to that spot sublime.

She is singing, over the border,
In the realm of joy and song,
  Then why should I care,
  When I know she is there,
The parting will not be long.

She is calling, over the border,
From the place I cannot see,
  Is waiting and singing,
  And watching and bringing
The border nearer to me.

She is beck'ning, over the border,
Bidding me also to cross,
  I am ready to go,
  There to meet her, I know,
No more then to feel the loss.

She is waiting, over the border,
I am waiting on this side,
  Some sweet day, when we stand,
  Side by side, hand in hand,
The border will not divide.

HOMER CLARK BENNETT.

Lima, Ohio.

THE PREVENTION OF MALARIA

Why is malaria allowed to cost on an estimated average 1,130,000 deaths and more than 100,000,000 cases of illness every year in India alone? Why does that country continue to pay its annual bill of $284,000,000 for the privilege of having malaria? Why do many other countries also pay their continual tribute? For, India is only one of a great number of regions which fall within the malarial zone. Malaria in mild form is distributed almost all over the known world; while in its malignant form, according to Dr. Wickliffe Rose, the General Director of the Rockefeller International Health Board, "it belts the globe in a broad zone including tropical and semi-tropical regions." Furthermore, more than half of the inhabitants of the earth live where infection is prevalent.

The answer is that, until recently, the cost of adequate antimalarial measures has been considered too great, except in cases where the elimination of malaria was an absolute necessity, to be accomplished regardless of expense, and in large cities where a dense population makes the per capita expense relatively light. A case of the former type was that of the Panama Canal Zone where, for five years, the annual per capita cost was $3.65—a heavy tax, but insignificant in comparison with its importance as a part of digging the canal.

In Port Said, satisfactory malaria control was secured at an annual cost of 10 cents per capita. But, Port Said has 100,000 inhabitants, a population large enough to bear a total expenditure that would be prohibitive for towns of from 1,000 to 5,000 inhabitants.

Recent tests, however, in Arkansas and Mississippi have proved that malaria control is economically feasible in towns of 1,000. Four methods were tried: antimosquito measures, screening of houses, administration of immunizing quinine, and attacking the parasite in the blood of the human carrier. All gave excellent results. At Crossett, Arkansas, a lumber town of 2,129 inhabitants where climatic conditions and abundant breeding places favor the propagation of anopheles, and where about 60 percent of all sickness was due to malaria, which was present in endemic form, the first experiment was tried, an account of which, as of the others, has been given in full by Doctor Rose in the *Journal of the American Medical Association* for November 8, 1919.

Pits and shallow ponds were filled or drained. Undergrowth was cleared away from the edge of running streams, their banks were trimmed, and they were held to narrow channels, with, of course, a swifter current. Other places which could not be drained or filled were cleared of vegetation, opened up so as to allow access to small fish (natural enemies of mosquitoes), and oiled weekly with road oil, either by means of automatic drips, or with a knapsack-type sprayer. All artificial containers were removed from the vicinity of the homes, and water barrels on bridges were treated with niter cake. The work was under the supervision of a trained man

and was carried out in a thoroughgoing manner.

The first result was, the apparently almost complete elimination of the mosquito. The actual reduction in malaria, as shown by parasite indices from May to December, 1916, was 72.33 percent.

In 1915, there had been, at Crossett, 2,500 calls for the services of the local physicians in malaria cases. In 1916 there were but 741; a reduction of 70.36 percent.

Crossett was convinced of the value of antimalarial measures. It took over the work of mosquito control and, in 1917, succeeded in reducing the number of doctors' calls to 200—less than one a day. In 1918, this was cut still further, to 73. In three years, Crossett had eliminated 97.1 percent of its physicians' calls for malaria.

And what did this cost Crossett?

The per capita cost of the work, the first year, was $1.24, omitting overhead expenses which could not properly be charged against the campaign. The total cost for 1917 was 63 cents per capita; and, in 1918, Crossett was kept virtually malaria-free at an expense of 53 cents for each inhabitant. Five other towns were similarly treated with virtually the same results.

The second method—screening houses—was tried in 1916 at a group of plantations along the shore of Chicot Lake, Arkansas. This section was infested with mosquitoes and had a high malaria rate. Most of the houses were negro cabins, often poorly constructed and difficult to screen. Nevertheless, all of the openings in the house were covered with 16-mesh galvanized wire cloth. The tenants were also shown how to keep the screens in good condition and were warned of the danger of exposure to mosquitoes, outside, at night.

From May to December the reduction in malaria, based on the parasite-index method, was 70.6 percent. The average cost of screening each house was $14.59, and, as the screens easily last two years, the average annual cost was $7.30, and the cost per capita $1.75.

In another group of plantations, which lay along a sluggish bayou where mosquitoes bred plantifully, the immunizing quinine method was tested. Each adult in the community was given 10 grains of quinine daily—5 gr. in the morning and 5 gr. in the evening—for two successive days each week. For children under 15, the dose was one grain for each three years of their age. Parasite indices taken in May and December of the year 1916 showed a malaria reduction of 64.45 percent, at a per capita cost of 57 cents.

The final method of malaria control is, to destroy the parasites in the blood of the carriers. This was first suggested by Dr. Robert Koch, the famous German physician and discoverer of the tubercle bacillus, during a visit to Italy in 1898, and first demonstrated by him in Stephansport, German New Guinea, in 1900, where he materially reduced the malaria rate in this little town of 734 persons.

During 1916 and 1917, this method was tested among more than 30,000 people in Bolivar county, Mississippi. Ten grains of quinine a day for eight weeks was found sufficient to sterilize the blood of about 90 percent of the persons to whom it was administered.

In 1918 the test was applied to Sunflower county, Miss. "This area," says the report of the experiment, "like the delta region in the heart of which it lies, is level, low-lying, and covered at frequent intervals with a net-and-patchwork of sluggish streams, bayous and swamps . . . a typical rural area." About 9,000 people live in the 100 square miles selected for the demonstration: 1,000 in the town of Ruleville and 8,000 on the cotton plantations.

There are about four times as many negroes as white people in the test area. From one-third to three-fourths of the people on the plantations are estimated to have one or more attacks of malaria annually. Of an annual doctors' bill of $4,000 for one plantation with 600 tenants, $3,000 was chargeable to the one disease. A census was taken, showing that 40 percent of the rural population had had malaria within twelve months, and that, of the remaining 60 percent, 22 percent had the parasites in their blood. All persons who had had malaria, and who were carrying the parasites, were given 10 grains of quinine a day for eight weeks.

Although no reliable figures are available as yet, it is estimated by the directors of this work that approximately 80 percent control has been established over malaria.

These experiments point the way to action. In Southern Georgia, the American Red Cross has been conducting an intensive antimalaria campaign, in cooperation with

the State Board of Health, the Georgia Association, the U. S. Public Health Service and several large corporations. The tests have shown that, where mosquito control is feasible, it unquestionably is practical. Taking into due consideration the safeguards with which scientific generalizations must be hedged, it may safely be said that people do not have to have malaria if they do not want it, and that it will pay them, both in direct saving of money and in greater efficiency, to put into effect one or more of the antimalaria measures. All that is needed is the willingness to be shown, and expert advice. The one must come from the people, themselves, but the other is to be had for the asking.

TREATMENT OF MALARIA

I agree with you that Dr. Macy's (this journal, Jan., p. 58) remarks about the treatment of malaria, especially the virulent form are exceedingly interesting.

Where I disagree with the doctor is, where he gives a wrong impression in regard to my expressed views. It is true that I have not had his opportunities of treating the pernicious type of malarial fever in its initial stage. There are indeed very few cases that I can recall. The reason is, of course, that I have never practiced in southern climates. The few cases that I have seen have come more or less directly from southern climates, either to Paris, London or New York; especially to the latter city, in which I was a regular hospital attending physician for many years.

During all this period, I have seen hypodermic injections of quinine resorted to only on rare occasions. I do not recall a single instance of the intravenous injection of quinine. I doubt not that, in a few very urgent cases, either one or the other may be required and despite their manifest drawbacks.

What I have claimed and still affirm positively is that, where the initial stages of all forms of malaria have passed, if we desire to cure our cases (and, I mean by that, prevent recurrences), we must give either Warburg's tincture or Huxham's compound tincture of bark. Whenever I have had to do with recurrences of malaria contracted originally on the isthmus or elsewhere in southern countries and where the crescentic form of the plasmodium was visible under the microscope, I have preferred, at first, to prescribe Warburg's tincture, or extract, and have been successful in the effects obtained. In those cases where the malaria was acquired in New York, or other states adjacent to New York, I have prescribed frequently repeated doses of Huxham's tincture of bark.

Latterly, as I wrote in *The Medical Record* for Dec. 11, 1920, I have been surprised that no mention was made of its use in the treatment of malaria by English physicians, in their debate on this subject in which their experience during and after the late world war was dwelt upon. I trust that my explanation in regard to my views on this very important subject will make my position perfectly clear.

BEVERLEY ROHNSTON.

New York, N. Y.

IS DRUG TREATMENT UNCERTAIN?

I have just finished reading Dr. W. A. Fenner's article on "Bacterial Vaccines" and I am tempted to write a few lines using two paragraphs from that article as a text. The article in question is published in the February CLINICAL MEDICINE, on page 110.

From one paragraph, I quote this statement: "With drugs, disease is treated symptomatically. A rapid pulse, for instance, is treated with a drug that reduces the number of heart beats; for a fever, antipyretics are prescribed; pain is relieved by giving a narcotic; and so on.

If this is a sample of the way Doctor Fenner used drugs in the treatment of disease, I do not wonder that he became disgusted with the whole plan of drug therapeutics and concluded to try something else. I have used drugs as a part of my armamentarium for twenty-five years and have never yet used them in the manner described by the Doctor. On the contrary, when I see a patient with a too rapid pulse, I endeavor to ascertain the cause of the rapid pulse and the prescription is selected that will remove that cause.

Very few intelligent physicians in the 20th century would treat a fever with an antipyretic. What would they do? Clean out the alimentary canal and regulate the diet; the fever will usually take care of itself.

I consider a physician a criminal who would give a narcotic to "relieve pain"

without exhausting every means in his power to discover and remove the cause of the pain.

Pains are our friends to warn us that we are violating nature's laws and that we shall suffer the sure penalty if we do not "mend our ways." A physician should no more give a narcotic to a patient to relieve pain, without removing the cause, than a wise man would kill his watch dogs because they barked when thieves were stealing his property.

Again, I read: "With drugs, one waits to see what will happen, ever ready to change the remedy in order to force a cure."

Once more, I wish to remark that an intelligent physician knows "what will happen" before he gives his prescription. For example, he knows that the typhoid bacillus has invaded the alimentary canal and blood of his typhoid fever patient. Would he expect to impede the production of the bacilli and their toxins by administering a coal-tar antipyretic or would he make the alimentary canal an uncomfortable place to develop germs and their toxins by feeding the patient with foods and giving remedies in the presence of which the bacillus typhosus could not develop rapidly? Hydrochloric acid, well diluted, is such a remedy. The microbes will not thrive well in an acid medium. Any kind of sour fruit, well cooked, and passed through a sieve or colander, also buttermilk, are such foods.

I trust that these few paragraphs will clear "the dust" out of the eyes of some of the youngest members of the medical profession.

D. W. REED.

Saguache, Colo.

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[Although we had, ourselves, voiced our dissenting opinion regarding the unfavorable comments made by Doctor Fenner about drug treatment, we are glad that Doctor Reed has entered the lists. While we are in entire accord with Doctor Fenner in his enthusiastic support of vaccine therapy, we should be completely at a loss if we were deprived of those drugs that an experience of many years has proved to be dependable and "trustable". With only bacterial vaccines and a hypodermic syringe in our medicine case, attendance upon the sick would, we apprehend, be anything but a gratifying matter.

As a matter of fact, we doubt greatly that Doctor Fenner himself desired his dictum to be taken as literally as might appear from the expressions used by him. We can not conceive how any levelheaded physician (and, one must be levelheaded to employ vaccines properly) can deny himself the manifest advantages to be secured from drugs—properly selected according to indications; in dependable preparation and form; administered in accordance with the results of clinical and laboratory observation. We venture to assert that the Doctor administers drugs when they are needed. His enthusiastic preference for bacterial vaccines—under certain conditions — may well be understood, and shared, by those who have had similar experiences to his own.—Ed.]

MEDICAL EDUCATION

I have read with considerable interest the various comments relating to medical education and, as I find that the subject has not been fully discussed, I will endeavor to add a little more on the topic. In my opinion, the preliminary requirements now are too high and should be lowered at the earliest possible date, as they shut out from the profession a very useful element, that is, the sons and daughters of the poorer class. If we look over the list of great men, we see that this class is well represented. By high requirements, we are making of the profession an aristocratic institution, which is contrary to American principles. While one may believe that, to do so, will reduce the number of medical practitioners; in my opinion, it will greatly increase it. The unfortunate result will be, an inferior type of practitioner.

At present, it requires at least fourteen years of preparatory work before admission can be gained to a medical college and the candidate would therefore be at least twenty-five years of age before he would be eligible to practice. Considering the brevity of life of the average physician, the new doctor will be useful to society but a short period and, besides, the medical profession will offer but little inducement to any progressive student.

These requirements will doubtless not reduce the number in cities, because the 1923

graduate of medicine will not even consider locating in a rural district where the surroundings are not congenial to his newly formed habits and customs. Instead, they will remain in cities. As the older physicians either retire or pass away, the people of rural sections and even of fair-sized towns will be left to the care of faith curers, osteopaths, chiropractors or book-healers. A number of towns and rural sections in Pennsylvania, New Jersey, and other states are already without an adequate number of physicians.

Such condition existed in France even before the war. Previous to 1892, that country prepared two classes of medical men; namely, the *"Officier de Santé"*, who was allowed to practice medicine, but not surgery, at the end of a two year course, after having complied with the entrance requirements by either a common-school certificate or an examination for the equivalent; and the second, the doctor of medicine, who received his degree after having attended a four-year course in medicine. The matriculation requirements were, a degree of Bachelor of Science which was approximately equal to a highschool certificate plus one year's work in biology, physics, chemistry, and one or two foreign languages. (I may here state that the requirements for doctors of medicine are still the same.) The degree of Doctor of Medicine was granted by the Department of Public Education on recommendation of the Medical Faculty before which the final examinations were passed, and entitled the recipient, without further annoyance, to practice medicine and surgery all over France and her colonies. This privilege we do not possess. It is ludicrous to think that a physician can successfully practice medicine in Philadelphia and yet be utterly unfit to practice in Camden, N. J., a distance of one mile. The proof that such preliminary requirements are sufficient is, that French physicians are doing just as efficient work as the doctors of any other country and Bachelors of Science become successful professors of even many of their large universities.

The elimination of the *"Officier de Santé"* left the health of virtually the whole population of rural districts and, in fact, that of many fair-sized towns, in charge of book-healers practicing the well known "Méthode Raspail". Peculiar as it may seem, the regulars cannot stop them since they cannot replace them.

The same thing will happen in the United States in less than fifteen years. The only difference will be, that physicians will be replaced by osteopaths, chiropractors, neuropaths, faith curers and other irregulars. So, while medical men are fighting the members of these various schools, they are progressively assisting their cause for, as the number of physicians will decrease, theirs will rapidly increase and gradually will gain control of the rural districts and small towns which will no longer offer any inducement to the college graduate. When this has been accomplished, they will be able to practice any system of medicine that they deem proper.

To make the medical profession attractive once more, the entrance requirements should be reduced to a three, or at the most, four-year special course, after graduating from a good grammar school or having covered an equivalent amount of work. Those desirous of matriculating in medical schools requiring a degree as a preliminary, would not be barred from doing so. In the three or four years' requirements, there should be included: English three or four years, English Literature three years, American Literature, one year; Geography, two years; Geometry one year, Algebra two years, Plane Trigonometry, one year; Latin, three or four years; a foreign language, three or four years; Physics, two years; Chemistry, two years; Ethics, two years; History of Philosophy, two years; Biology, three years; U. S. History, three years; European or ancient history, two years; Economics, two years.

Having completed such a course, in my opinion, a student would be well prepared to enter any medical school.

VICTOR P. JOURDAN.

Bristol, Pa.

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[Experiences in France, such as are described, have a counterpart, in a way, in England where medical practice used to be apportioned among the apothecaries (or, the "medical men," so called) and the graduate physicians, especially those holding the M. D. of London University who were consultants. Apothecaries were not usually holders of the Doctor degree. They had, however, complied with certain requirements and had passed an examination, the

certificate of which entitled them to practice.

In Germany, the "practical physicians" were those who had complied with all the requirements and had passed their examinations, the acquiring of the Doctor degree being optional and dependent upon further study.

There seems to be a fairly insistent opinion that general practitioners should be granted the right to practice after a shorter course than is at present demanded. It is said that these practitioners might be licensed conditionally after two, three or more years of study and without having obtained the academic degree. Some men propose that these practitioners should go up for further examination later on. Others believe that their license to practice should be limited, say, to internal diseases and obstetrics, excluding surgery and the specialties.

All these things have a certain theoretical justification. It is to be feared, though, that such a class distinction among the licentiates of the boards of medical examinations might be tolerated but illy and that the arrangement wouldn't work very well. Something undoubtedly will have to be done, though, sooner or later to adjust existing difficulties.

When it comes to the preliminary requirements, it is to be feared that very little can be done there. Undoubtedly, a young person who wants to study medicine must have a good knowledge of the English language and should have at least a working knowledge of Latin and of one foreign language. In addition to that, the study of history, both universal and American, tends to broaden the mind as does also that of geography. Mathematics is essential for similar reasons. Philosophy, biology, physiology and chemistry are studies that lead directly to the study of medicine and can not well be neglected. There are various other things that a future student of medicine should learn, such as, for instance, drawing, botany and zoology, and so forth.

If all these studies are pursued properly, whether in highschool or in college, it is to be feared that mighty few people will be ready to enter upon their medical studies before the age of twenty or twenty-one. As a matter of fact, perhaps it is not desirable that they commence the special medical studies earlier.

However, if the preliminary studies (which are called "propaedeutic" abroad) are passed upon before entrance into the medical school, that leaves more time for anatomy and other studies preparatory to the medical branches proper.

The whole subject is a very difficult one. It seems hardly possible at the present time to enter upon the lifework of a physician before the age of twenty-five. While that is a drawback in some respects, it is, on the other hand, salutary because, after all, the office of the physician carries too grave a responsibility to be entrusted to mere youngsters.—ED.]

PNEUMONIA TREATED BIOLOGICALLY

Having been a subscriber to CLINICAL MEDICINE for years and a contributor only once or twice, I have decided to break my shell and write a short article.

The advice that this journal gives has been of untold benefit to me; "Clean out; Clean up; and Keep Clean." It seems to me, though, that there is not one physician in ten that cares to study or learn common sense after leaving the medical school.

It was my luck to have to call in consultation, a few days ago, a doctor of that type. The case was one of lobar pneumonia. The right lung was almost entirely consolidated. Temperature, 104 to 106. Nose bleed. I did not see the patient until the fourth day after the chill. I ordered a clean-out treatment with calomel, podophyllin and bicarbonate of soda. The temperature persisted to range from 104 to 106° F. The patient was restless and seemed comatose; picking at bed clothes. The pulse, 140.

On the sixth morning of the illness, at 9 a. m., the temperature was 104°. So, I gave 3 mils (Cc.) of pneumonia phylacogen. The maximum temperature during that day was 104°. At 9 a. m., on the seventh day, it had gone to 102°. I gave 2 mils of pneumonia phylacogen; the maximum temperature on that day was 102°. On the eighth day, at 9 a. m., the temperature was 100°, and did not go higher all day. On the morning of the ninth day, the temperature was 97½°. During the night, it had gone down gradually. I had given instructions to push a stimulant which I had been giving every 4 hours from the time when the temperature had started to running below 102°. This was composed of strychnine sulphate

and liquid peptonoids. From the ninth day on, the temperature was normal. The tongue was dry and dark throughout. I gave 1 mil (Cc.) of pneumonia phylacogen on the morning of the eighth day, when the temperature was 100° F.

My consultant would not suggest any change in treatment, after he found out that I gave "serum"; except for the advice to push the strychnine. This, though, I did not consent to, as I only give strychnine on temperatures lower than 102° F.

I am not writing a testimonial for pneumonia phylacogen; but, I believe that, in this case, we owe the 8-year-old youngster's life to this remedy.

While this may be scattering, my plan of practicing medicine is not. I am 52 years old and have been practicing medicine for twenty-nine years. I still learn something nearly every day.

Your article, "Broad-minded Tolerance" (February issue, p. 75) is a "humdinger" and more than worth the price of the journal. Reverting once more to the case, I kept up expectorant remedies. However, I want to lay stress on the fact that no treatment was doing good until I began the phylacogen. This is only the fourth case of pneumonia that I have treated in this manner; the results have been favorable in all cases. In the other three cases, however, I used a different biologic preparation.

I. N. CAMPBELL.

Alice, Texas.

TREATMENT OF APPENDICITIS

I have just read the article entitled "Appendicitis," by R. Willman, in the February number of CLINICAL MEDICINE. In that article, the doctor claims great success with the nonsurgical treatment of appendicitis.

Certainly, his experience has been very different from that of most other physicians. I began my medical career thoroughly believing that fewer operations should be done for appendicitis. However, a few years spent in hospital service convinced me that the great harm is not because of too many operations for appendicitis but because of too late operations in many cases.

I have never known of a patient dying from an operation for appendicitis when this was done in time; but I have seen many die who had been treated by nonsurgical methods until operation was too late. During my hospital service, in Ohio, it was a common experience to have appendix patients come in from the rural districts with ruptured and gangrenous appendices who were doomed to a long and tedious convalescence or a very prompt death, nearly all of whom could have gone home well within a few days had they come in early.

Doctor Willman is entirely correct when he advises not to apply cold to the abdomen in these cases. The worst cases are often those that have had the icebag applied in the hope of aborting the attack.

Appendicitis is a very treacherous disease and there is no way to know, at first, whether a case will terminate in gangrene or abscess or subside almost without treatment. I can not conceive of 500 successive cases that would terminate favorably by any nonoperative treatment. Individual attacks often do so but are liable to recur more severely than before. The expression "One attack of appendicitis may get well without operation; two attacks, and the third one is almost sure to occur; three attacks, and the fourth is inevitable," is very true according to my observation.

Of course, the question of diagnosis must be settled and is often no small matter. The man who diagnoses every case of pain or tenderness in the right side as "appendicitis" is a careless diagnostician, to say the least, and statistics of such a one are not reliable. Careful physical examination should be ade; also blood counts and radiographs when required. Even then, it is not always possible to be sure of the diagnosis; however, with these and other diagnostic measures, it is not usually difficult to decide whether or not the case is surgical. After seeing many cases come to operation within twenty-four hours after a first evidence of an attrack of appendicitis or other ill health, and then finding gangrenous or suppurating appendices, I have concluded that it is never safe to take chances by waiting.

Why should we wait when it is possible to operate early and be sure of no further trouble? In case there is postoperative ill health, as Doctor Willman mentions, it is very likely due to poor surgery, or the operation was postponed too long. It is now possible and practical to do many cases

of appendectomy under local anesthesia and by making a small incision and doing a muscle splitting operation. Often, these patients can be out of the hospital within a week and back at their work within a month, with no danger of further attacks and no postoperative distress. Moreover, they have suffered less pain and, many times, as little expense as by going through an attack without operation.

C. Elmer Frey.

Ceresco, Nebraska.

MATERNAL IMPRESSION

The most striking case of maternal impression that has ever been encountered by me, in nearly half a century of an active, extensive general practice is one described in the following:

A six year old boy in the family of Mr. P. burned his right hand. It was permitted to heal without surgical attention, and the result was a badly deformed hand. The thumb had grown to the palm and index finger as far as the first phalanx; the index finger and middle finger were webbed together; there were still other deformities. About six years after this accident, another male child was born to this family, whose right hand was as nearly like the burned hand as it could be; in fact, on carefully comparing the two hands, they differed in only a few minor points. This was not the next child born after the accident to the hand; two other children had been added to the family before the one with the deformed hand came. The mother told me that, for several months before this child was born, the boy with the burnt hand had been sick and she had cared for him a great deal and had to wash this hand. She had worried more about the deformity than ever before.

It looks as if this were a real case of maternal impressions. It could hardly be a coincidence.

J. W. D. Mayes.

Illioplis, Ill.

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[The Editor remembers an experience that virtually duplicates the one recorded by Dr. Mayes. About eighteen years ago, he treated an old man, in his last illness, whose right hand was badly deformed. His daughter, in her third pregnancy, was much in attendance. When she was confined, the baby's hand showed a deformity corresponding to that of his grandfather. In the latter, the trouble had been due to an accident. —Ed.]

ANTHRAX, OR MALIGNANT PUSTULE, AND HOW TO CURE IT

There were two deaths reported last year, in western Iowa, from anthrax. Yet, apologies are not acceptable for letting a man die from anthrax.

Some years ago, a young man, attending one of the county fairs and working among the stock, contracted anthrax. When I was called, upon his return home, I found him with a temperature of 105° F.; there were five pustules on his right hand and three on his left hand. Using rubber gloves, I examined the lesions thoroughly and found them very hard, resisting, of a dark bluish color, and oozing a yellow inodorous ichor. The right arm was swollen enormously to the shoulder and of a fiery red color. There was not so much pain as a burning sensation in the arm. This was the part first infected. From the right hand, the infection was conveyed to the left hand.

Not understanding its infectious nature and using the same towels, he had consequently infected his younger sister and younger brother. Both had pustules on their hands, of the same character but not so advanced. In them, the fever was of moderate degree, 101½° and 102° F., respectively.

A condition like this requires action. Thrusting a hypodermic needle into the skin at the edge of each pustule, I injected a local anesthetic and, then, with another syringe filled with a 20-percent solution of carbolic acid in glycerine and sterile water, I injected each pustule until it turned absolutely white. Then, over each pustule, I applied Canadian balsam and enveloped the arms completely in Crédé's ointment. This preparation is expensive, as it cost a dollar a drachm; however, that is of little importance, comparable to a human life.

Internally, I administered fluid-extract of echinacea in ½-teaspoon doses, every three hours, with small doses of arsenic and of ammonium carbonate (4 grains), every 4 hours, in capsules. Aconitine, digitalin and veratrine was given every one-half hour to

subdue the high fever, and strychnine to sustain the heart.

I had destroyed the source of systemic absorption and the rest was easy. The patients improved at once and were well in ten days.

Don't temporize in cases of this type. Kill the bug in its den. I have, for twenty-five years, treated carbuncles in like manner. Infiltrate the carbuncle with whatever local anesthesia you choose. I generally use procaine. Then, with a Luer syringe of medium size, inject the carbuncle with a twenty-percent solution of carbolic acid and apply whatever dressing you choose. The A. B. C. solution is as good as any. The following day, with scissors and forceps, dissect out all the necrosed tissue and apply your Canadian balsam or dichloramine-T, and you will conquer the worst cases. If there is septic fever present, treat that symptomatically. Arsenate of quinine is fine in these cases, as a tonic; in some of the enormous carbuncles, I invariably gave echinacea, also small doses of arsenic or calcium sulphide, as constitutionally indicated.

J. H. Lowrey.

Neola, Iowa.

CAN PNEUMONIA BE ABORTED?

Replying to a question propounded in the November Clinic, "Can pneumonia be aborted?", I wish to contribute my mite.

There having been so much discussion on this question in time past, I shall leave to the jury of Clinical Medicine to decide what is meant by aborting pneumonia, illustrating my construction of the question by citing a case. A lad, four years of age, contracted a bad cold; croupous cough; threatened pneumonia; fever with temperature of 103° F.; short, quick, labored breathing, etc.; flushed cheeks. Treatment: Two 1/10-grain tablets of calomel every 15 minutes, five doses; 1/2-grain of iodized calcium, rubbed up in sugar, every half hour for four doses, then every three hours. One hour after the fifth dose of calomel, 1/4 or 1/3 teaspoonful of saline laxative in water, every half hour until bowels move, up to four doses. If bowels did not move in two hours after that, an enema of warm water was ordered. A solution was to be applied to chest, throat and abdomen, consisting of ichthyol, 1 1/2 drachms; tr. aconite, 1/2 drachm; tr. lobelia, 1 drachm; Glycerin, to make 2 ounces, and covered with a cloth. I ordered a sweater put on—no cotton jacket.

All this was prescribed at 7 p. m. I called next morning at 9 a. m., found that the boy had slept fairly well; the lungs were clearing up, breathing was easy. Very little cough persisted and this was loose; the temperature stood at 99° F. Instructions: Keep up the same treatment for a day or two; permit liquid diet, mush with milk, and such; but, no milk to drink.

This boy was up and around (in his room) on the third day and progressed to normal health.

This is only one of the innumerable cases so or similarly treated during the many years of my experience. I cite this case simply as a basis of my argument that pneumonia can be aborted. One of the main points is, early and logical treatment along the lines stated.

My sheet anchor in all cases of colds and fever is: Interdict cold drinks of any kind; provide for proper elimination by means of calomel followed by saline; ordinarily, small doses of salines, three times a day, will keep fever and delirium down and guard the heart.

When pneumonia has actually set in, this treatment will usually suffice and cut the disease short. Never wait six or eight days for the crisis. Reduce the fever within the first hour or two and keep it down with treatment along this line, adding such other remedies as are indicated. The best in my hands are the defervescent or dosimetric combinations of aconitine with strychnine, digitalin, veratrine, glonoin, as they may be indicated.

The dosage for adults is, 1 granule to a teaspoonful of water per dose; for children, it is regulated in proportion to the age. For fever, I order one dose every half hour, until the fever has declined half a degree and the pulse is reduced to 80 or 90 beats per minute in the adult; similarly in children. Then, enough is given to hold temperature and pulse in safe limits.

Aconitine with digitalin and strychnine may be administered three times a day to protect the heart. In case of overaction on the part of the defervescent combination (aconitine, digitalin, veratrine), one may instruct the nurses to administer a few doses of the former formula every half

hour or one hour, until the patient becomes normal.

By following this way of managing cases, I seldom have such a thing as delirium in fever cases. In some instances, we must spend some time instructing the parents, and even nurses, to enable them to carry out our instructions; but, that time is well spent.

R. WILLMAN.

St. Joseph, Mo.

"INSTRUCTIONS OF PATIENTS WITH VENEREAL DISEASE"

As to the charges contained in the letter from our anonymous friend (this journal, March, p. 192), it is a fact that, some years ago and up to the time we entered the war, very little information was given venereal-disease patients about their malady; but, that is now relegated to the limbo of the past, is forgotten history, in the face of the very great advance made in the publicity given to all venereal discussion.

I do not think that the therapeutic injections (carefully given and with the advice to always urinate first to clean out the canal,) drive the infection posteriorly in many cases, although there is no doubt that too-great force used in the irrigation or injections will cause trouble.

Chronic gonorrhea, so called, is kept up by stricture anywhere in the canal (tested by the bulbous bougie), by infected glands anywhere in the canal, by prostatic or vesicular involvement. The treatment must be directed to the spot affected. And most cases of chronic discharge are possibly curable. It takes time and patience and some judgment.

I am enclosing brief instructions for the treatment of gonorrhea in the male and the female, which may be helpful by suggesting lines of treatment and calling attention to some things that are important.

R. J. SMITH.

Salt Lake City, Utah.

[Dr. Smith's article will be published in a later issue of CLINICAL MEDICINE.—ED.]

A NERVE STABILIZER—GELSEMIUM

In a recent article in THE AMERICAN JOURNAL OF CLINICAL MEDICINE, I read that various remedies have been listed as fit to be sent to the discard of obsolete remedies, among them gelsemium. To that decision, I enter a protest, for, I have found gelsemium one of the best stabilizers of nerves that have ever come to my notice.

Take the case of the overwrought business man or very nervous woman, whether in business or social life. They develop some very annoying mannerisms due to great nervous strain. At table, at meals, in lapses of conversation, you will notice certain tappings of the fingers on the tablecloth or arm of chair; frequent stroking of hands or tapping of one foot on the floor.

None of these things are loud or excessive but, still, exceedingly annoying to those who closely observe while, yet, entirely unknown to the person himself. When his attention is called to it, he will apologize and say "I was not aware of it." For a while, things will go on quietly, but, when other things engage the attention, he will be found doing the same thing. This is truly a state of unstable nervous equilibrium. Gelsemium will restore it.

We find this trouble in schoolteachers who have been in the work for some time. It is well named "schoolteacheritis." It is found in piano tuners and those given to busy mental and nerve strain. It is like the straining of the overstretched piano string that the tuner is expecting to break at any time. This condition often precedes and causes saccharine diabetes.

To say the least, it is a bad condition. It is almost surely the opening of the door to collapse. Tell such a person to sit in an arm-chair, placing the elbow on the arm of the chair. Bend the elbow till the fingers point to the ceiling; separate the fingers; tell him to relax and not to hold the hand stiff. Tell him to protrude the tongue; this will show much trembling. It is often very red and fissured, though not in all cases.

In that violent trembling or shaking that comes to the nervous parturient after the child is born; to one who has had nerve shock from fear or fright, from injury, from surgical operation; tremor from any source even to in some cases simulating shaking palsy; to the nervous child that clings with terrified trembling clasp to mother or nurse—to all these, gelsemium is a balm that soothes the asperities of all the foregoing symptoms. It is a sane and safe stabilizer of nerves out of tune and

one that can do no harm, for, the smallest appreciable dose is given.

Gelsemium is given in pure water, repeated to effect and then the dosage is ended, to be given again only if needed. Usually, a few doses is all that recent cases require. In chronic cases, the relief is almost immediate, though the remedy needs to be used as symptoms may require.

The usual attention is to be paid to the needs of the body in the matter of diet, baths, cathartics, exercise, rest. However, gelsemium given as suggested in the following is the remedy you have been looking for.

I use, of the alkaloid gelseminine, 2 granules dissolved in 4 ounces of pure water. 1 teaspoonful every half hour for adults; for children the dose is graded in proportion. Another good preparation is Lloyd's specific tincture gelsemium, 2 drops in pure water, 2 ounces. One teaspoonful every half hour to effect; then stop.

Gelsemium, diluted as suggested, is safe and sure. It will do no harm, and will prove to be a true stabilizer of shaken nerves, worth more than its weight in gold.

C. S. Cope.

Tacoma, Wash.

THE LEGISLATIVE COMMITTEE OF THE ILLINOIS STATE COUNCIL REPORTS AMONG OTHERS THE FOLLOWING BILLS THAT HAVE BEEN INTRODUCED INTO THE STATE LEGISLATION

A bill regulating the practice of chiropody gives the chiropodist license to do any kind of surgery on the hands or feet that can be done under local anesthesia.

A maternity bill which is practically a duplicate of the Sheppard-Towner bill which was introduced into Congress will be among the first to be heard in Committee.

A bill to license cosmeticians which is merely another avenue to allow certain individuals to practice medicine and surgery without studying these subjects. It is a bill which is intended to license beauty parlor graduates to remove warts, moles, and such.

A dental bill which would prohibit duly licensed physicians and surgeons from diagnosing or treating any disease of the jaw or alveolar process.

A bill to register physicians and surgeons from Foreign Medical Colleges in the State of Illinois without taking the examination.

A bill to revise the Workingman's Compensation Act which would permit the injured to select his own physician.

The Osteopath bill, up to the present writing, has not been introduced but, advance information on this bill indicates, it will be much broader than any bill of like character introduced heretofore.

John S. Nagel, Chairman,
Legislative Committee State Council.

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The foregoing is reproduced from the *Official Bulletin of the Chicago Medical Society* for March 19. We publish the information in Clinical Medicine for the reason that similar bills are constantly being introduced into the legislatures of many states in the Union. There is a persistent and concerted effort, not so much to lower the bars to admission to medical practice as, rather, to open various side doors and gates through which outsiders may be admitted to the privileges of medical practice without having received sufficient training and education; and without assuming commensurate responsibilities.

The astonishing fact is, that graduates of acknowledged and established schools who, it may be claimed justly, have received the best possible preparation for admission to the practice of the healing art, are obliged to pass rigid and difficult examinations while the disciples of irregular cults are admitted to virtually like privileges without being under the necessity of showing evidence of suitable education, both general and special, that shall fit them to the exercise of the healing art. The assurance, indeed, the arrogance of such procedures is actually beyond belief. It is difficult to say what will be the outcome of this nation-wide anti-social agitation.

However, it is distinctly up to physicians to discountenance emphatically all these Bolshevick attempts to lower the standards of medical practice to admit ignoramuses and incompetents, no matter with what high sounding names, and to license them to offer their help as practitioners of medicine, as having the sanction of the government.

AMERICAN JOURNAL OF SURGERY

The popularity of the *American Journal of Surgery* is due to the service it gives to

its readers. The special numbers it has produced, from time to time, have met with unusual favor, and the contents of these numbers prove a complete résumé upon the subjects treated.

We are informed that the May number will be devoted exclusively to fractures and in that issue will be presented the following original papers by recognized authorities upon the subject of fractures and their treatment.

"Fractures of Tibia-end-results and Ambulant Treatment,"
Dr. John J. Moorehead, New York City.
"Treatment of Fractures of the Humerus,"
Dr. Joseph Blake, New York.
"Treatment of Fractures at and about the Ankle,"
Dr. Frederick J. Cotton, Boston, Mass.
"The Cerebral Symptoms and Operative Indications in Skull Fractures,"
Dr. William Sharpe, New York City.
"Latent Symptoms from Unrecognized Fractures of the Vertebrae,"
Dr. Norman Sharpe, New York City.
"Fractures of Fingers and Toes,"
Dr. Harry E. Mock, Chicago, Ill.
"Early and Complete Immobilization as a Factor in the Preservation of Joint Function in the Treatment of Fractures,"
Dr. H. Winnett Orr, Lincoln, Nebr.
"Intertrochanteric Fractures of the Femur,"
Dr. Kellogg Speed, Chicago, Ill.
"Bedside Radiography in Fractures,"
Dr. I. Seth Hirsch, New York.
"Fractures at the Head of the Radius,"
Dr. James Morley Hitzrot, New York.
"Traction—Suspension—Apparatus,"
Dr. Henry H. M. Lyle, New York.
"Pott's Fracture of the Leg,"
Dr. W. L. Estes, So. Bethlehem, Pa.

AMERICAN PROCTOLOGIC SOCIETY

The American Proctologic Society will hold its twenty-second annual meeting at Boston, Mass., on June 3, 4, and 6 next. The meetings will be held in the Boston Medical Library, while the headquarters of the society will be in the Hotel Braemore. Clinics will be held on the last day of the meeting.

The program of the public sessions, to which all physicians are cordially invited, provides for twenty papers to be read by men prominent in this work. General practitioners are certain to learn many things of service to them in their own practice.

COURSE IN CANCER RESEARCH

Cancer research, stimulated by the approaching visit of Mme. Currie and by the progress in experimentation reported by Dr. Francis Carter Wood, Director of the Crocker Laboratory, will be taught at Columbia University during the Summer Session; it is announced.

The course will be given at the Crocker Laboratory, 1145 Amsterdam Avenue, where large numbers of tumor-bearing mice are patients, and will deal with the morphology and biology of tumors, under the direction of Prof. W. H. Woglom of the laboratory staff.

"The instruction," says the announcement, "will consist of a series of lectures and laboratory exercises, and is intended to give the student sufficient experience to enable him to diagnose all the commoner varieties of tumors. It is planned especially for the needs of those who are to take up hospital or public health laboratory positions which may require the microscopic diagnosis of tumors.

"The classification of human and animal tumors will be first considered. The method of transplantation of tumors in animals will be shown. The simpler procedures for fixing, sectioning, and staining tissues for diagnosis will then be taken up. The major portion of the time, however, will be devoted to the study, from a diagnostic aspect, of human tumors, with practical exercises in diagnosis and demonstration of a large series of type slides."

A series of courses in medicine will also be given this summer by the College of Physicians and Surgeons. Prof. O. S. Strong will teach neuro-anatomy at the Neurological Laboratory, and a course in clinical pathology will be directed by Prof. K. M. Vogel, at the Laboratory of Clinical Pathology. Dr. P. C. Potter will give instruction in minor surgery and bandaging at the Vanderbilt Clinic. Other summer courses include anatomy and bacteriology.

AMERICAN MEDICAL EDITORS' ASSOCIATION

The 52nd Annual meeting of the American Medical Editors' Association will be held at the Hotel Lenox, Boston, Mass, on Monday and Tuesday, June 6 and 7, under the Presidency of Dr. H. S. Baketel, Editor of the *Medical Times.*

A novel feature of the literary program will be introduced this year in the shape of a symposium, which will be discussed by various members. The subjects will be,

"Group Practice and the Diagnostic Clinic,"

"What Should Be the Attitude of the Profession Toward Health Centers?"

"The Correlation Between Editorial, Advertising and Subscription Work."

Every doctor, even remotely interested in medical journalism, will find it to his advantage to attend, and is most cordially invited.

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Conducted by CEORGE BUTLER, A. M., M. D.

Food in Its Relation to Health

[*Continued from April issue, p. 272*]

PAWLOW has shown that such gratification of taste results in the production of a large amount of gastric juice of a remarkably active digestive quality. When food is eaten in this way, the stimulation of the sense of taste during the prolonged mastication develops in the stomach large quantities of appetite-juice, so that, when the food enters the stomach, digestion begins at once; while food hastily eaten, especially when taken in large quantities, finds in the stomach only a small amount of gastric juice of inferior quality to perform the great and, really unnecessary task that has been thrust upon the stomach merely to gratify the appetite.

When food is chewed properly, as Mr. Fletcher showed, there are certain automatic reflexes that are brought into play and whereby the quality of the food is toned and the various digestive juices in the stomach and intestines suited to the nourishment of the body.

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The principles of food reform are basic and fundamental to all physical, mental and moral progress.

A Turin physiologist, Dr. Javali, sent a series of questions to all Italians who had attained the age of a hundred years. The total number to whom he applied was two hundred and seventy-four women, and one hundred and thirty-three men. Only fifty-two, however, out of the three hundred and eighty-two returned answers of which he could make any practical use for the object which he had in view—namely, an account of the manner of life of persons who lived to be very old, for the guidance of others who might be ambitious for a long life. Dr. Javali came to the conclusion that a man's constitution of body, whether tall or short, stout or lean, straight or bent, had little influence on his chances of a hundred years. The most important point, according to the answers received, is the food.

The majority of these Italian centenarians reported that they were either small meat eaters or ate no meat at all, and that the staple food of nearly all was vegetables and fruit. From spirituous liquors, with the exception of the simplest wine of the country, most of them abstained. It is important to note that the majority stated that they were careful to wear warm clothing. Another point was their uniform testimony to cheerfulness of temper and avoidance of all excitement and worry about daily and hourly trifles. Sanguineness and content, Dr. Javali infers, are aids to length of days. A certain degree of stoicism, also, he believes is worth cultivating.

But, it is very doubtful whether those who live a feverish, hurry-scurry life can, unless they have very excellent constitutions (and often, not then), ever live a hundred years. Seventy-five or eighty years ought to content the majority of mankind, until we are able to live rationally.

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It is impossible to digest articles of food until they are raised to a moderately high temperature. Much of the illness prevalent in summer would be avoided if people ate warm food as they do in winter. Delicate persons, especially, should avoid cold dishes and drinks. They are extremely taxing to the digestive powers and a great draft on the vitality. The human system has just so much power in reserve and, if this is exhausted in warming up the large amount of cold food that is taken into the stomach, there is but little left to carry on the other processes of existence. A physician of wide experience says that, for forty-

five years, he has scarcely had a day's illness or an hour's pain, and this exemption from suffering he attributes to an unvarying habit of taking a plate of hot soup three or four times a day, winter and summer. His practice is largely metropolitan and, if he is tired or overtaxed, he makes it his imperative duty to visit the nearest first-class hotel and get a dish of the best soup he can find. He frequently takes it without accompaniment of any sort; occasionally a biscuit or roll is eaten at the same time. This man declares that, all things being equal, he will stake his reputation on the theory that nine-tenths of the intestinal troubles of the summer season could be avoided by the systematic and frequent use of hot beverages, or, what is better, dishes of soup eaten as hot as they can be relished.

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The banana as a fashionable food makes comparatively slow progress in this country. It is an unattractive looking article, and, to some people, is positively objectionable for its "candle flavored with weak pineapple taste." Still, the banana has a reputation as a good medicine, and a pleasant one at that. It dispels constipation in children; while for adults it has a good effect in cases of acute indigestion. The banana must be ripe. See to that. Then, taken as a dessert, it will be advantageous. Bilious people are advised to eat a banana the first thing in the morning, but, few persons like this early-morning treatment. So many things have just an early-morning reputation and no more. Salts—our friend Epsoms—or Abbott's Saline Laxative—with lemon juice, is one. Half-a-pint of this lemon-juice water and salts, and life becomes a boon. Hot water is another daybreak fiend. A tumbler of boiling water or water as hot as can be borne, and we have a panacea. So, when we note that the banana is a day commencer for the bilious one, we do not feel quite so friendly towards the banana.

Overeating

Overeating is one of the principal causes of disease. It is usually due to hasty eating, the free use of highly seasoned foods, the free use of sugar or of soft, mushy foods. Nature designed that every mouthful of food should be thoroughly masticated. For this reason, we are kindly furnished with strong teeth, or a mill, to do the necessary grinding. When food is taken dry and well masticated, the taste buds are stimulated, and the sense of taste, which has the function of regulating the supply of food, is given an opportunity to say "Enough" before too much has been swallowed. The satisfaction and strength obtained from the food depends upon the proper mastication, or the length of time it is retained in the mouth. "Who satisfieth thy *Mouth* with good things so that thy strength is renewed like the eagles' ". Soft foods and highly seasoned foods are the principal causes of gluttony. Overeating finally results in feebleness of the digestive organs, and general ill-health, with all its disagreeable symptoms. If the appetite has been abused so long that the nerves of taste are no longer a safe guide, reason or enlightened conscience must rule and determine the quality and quantity of food needed. But, there can be no doubt, when nonirritating foods are eaten, there is very little danger of overeating.

The hearty Sabbath dinners are no doubt responsible for many other forms of Sabbath breaking, as it draws away the energy from the brain to assist the overburdened stomach in its work. No one can have clear perceptions of right and a quick sense of wrong who indulges in overeating. The Sabbath may become a curse instead of a blessing to mankind.

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It is one of the greatest mistakes in life to eat fast. Mastication performed in haste must of necessity be imperfect, even with the best of teeth, and due admixture of the salivary secretion with the food can not take place. When a crude mass of inadequately crushed muscular fibre, or undivided solid material of any description, is thrown into the stomach, it acts as a mechanical irritant and sets up a condition in the mucous membrane lining that organ which greatly impedes, if it does not altogether prevent, the process of digestion. When the practice of eating quickly and filling the stomach with unprepared food is habitual, the digestive organ is rendered incapable of performing its proper function. Either a much larger quantity of food than would be necessary under natural conditions is required, or the system suffers from lack of nourishment. The matter may seem a small one, but it is not

that. Just as a man may go on for years with defective teeth, imperfectly masticating his food and wondering why he suffers from indigestion, so a man may habitually live under an infliction of hurried dinners and endure the consequent loss of health without knowing why he is not well, or how easily the cause of his illness might be remedied.

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Neither is it wise to eat unless one is really hungry. No food should be taken unless there is real, natural hunger; it is far better to miss a meal than to eat without an appetite.

A prolific cause of chronic indigestion is, eating from habit, simply because it is meal-time and others are eating. To eat when not hungry is to eat without relish; and, food taken without relish is worse than wasted. Without relish, the salivary glands do not act, the gastric fluids are not freely secreted, and the best of foods will not be digested. Many perfectly harmless dishes are severely condemned for no other reason than that they were eaten perfunctorily and without relish and due insalivation.

Hunger makes the plainest foods enjoyable. It causes vigorous secretion and outpouring of all the digestive fluids—the sources of ptyalin, pepsin, trypsin, and others, without a plentiful supply of which no foods can be perfectly digested.

Wait for an appetite if it takes a week. Fasting is one of the saving graces. It possesses a spiritual significance only through its great physical and physiological importance. If breakfast is a bore or lunch a matter of indifference, cut one or both of them out. Wait for distinct and unmistakable hunger—and then, eat slowly. If you do this, you need ask few questions as to the propriety and digestibility of what you eat and it need not be predigested!

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I have long maintained that more harm is done by overeating than by eating any particular kind of food. This storing of food is important. For instance, starch is converted into sugar in the process of digestion; sugar is converted into other sugars; both are burned to produce heat, and, in turn, energy. If we eat an excess of these foods—more than is needed by the system—they are stored in the form of fat, and it must be remembered that, after we pass fifty, it is more difficult to dispose of these foods as our capacity for storage varies greatly with our occupation and age. In a young person, overeating may be, and frequently is, rectified by a severe "bilious" attack or a sick headache; the same process, however, is not so easily corrected after we have passed our fiftieth year. The physical worker, even after he grows older, especially if his exercise be in the open air, can dispose of more food than the office man, and he also enjoys the pleasure of satisfying his healthy appetite. An abundance of pure air enables both men and women to resist the many sources of evil which are apt to affect indoor workers; they do not accumulate fat so readily, and the waist-line does not increase to such enormous proportions.

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Both men and women, as they grow older, store fat nearer the digestive tract; their abdomen increases in size as well as their waist-line; the balance of unexpended nourishment tells heavily against them.

Liquid foods taken with solid diet are objectionable in old age. The habit of dipping bread in tea or coffee is to be condemned; it prevents mastication, causes flatulency, and impairs the whole digestion. Bread and milk are not so objectionable, especially if the bread has been thoroughly dried or toasted; mastication of the milk with the bread aids in its digestion. Foods, both liquids and solids, require mastication for mechanical and chemical reasons; they must be broken apart to give the secretions of the stomach an opportunity to act quickly before unnatural fermentations set in. These conditions are more apt to grow after one passes one's fiftieth year. For chemical reasons the saliva must be mixed with many foods to aid in their primary digestion. Flatulency and sour stomach are frequently caused by the food remaining too long in the stomach; artificial or unnatural digestion caused by the microorganisms in the stomach overpowers the natural digestion, and the food is lost. We have not received the proper nourishment, although we may have eaten more than enough. In a short time, we are hungry and must eat again.. This is, perhaps, one of the most serious drawbacks that comes to the aged. The relation of overfeeding to liver and kidney derangements and to the production of overfat is

well known. We can tell exactly the food upon which a person lives by the general appearance of the body, its elasticity and energy. Adjust the income and keep the relations well balanced between it; the outflow, and health, and strength with old age will be the compensation.

In youth, or before we reach the middle life, when we are in the full vigor of activity, a little fat stored is not a source of evil; it is by no means in our favor, but at the same time it does not produce the evil effects that come from such an accumulation in later years.

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One should exercise some care in his diet. Those who wish to derive real benefit from what they eat should resolve—

1. To eat only those things that are of admitted good quality.
2. To eat nothing that has been found by experience to disagree with the digestive organs.
3. To eat only at regularly appointed times.
4. To take no hearty meal when the mind is taxed, worried or agitated.
5. To eat nothing just before retiring to rest.
6. To do no great mental or manual labor upon an empty stomach.
7. To eat nothing between meals.
8. To eat slowly so that every particle of food shall have the opportunity of being completely acted upon by the digestive juices.

If there is one idea more ingrained in the ordinary mind than any other, it is that, unless we eat three, large, regular meals a day we are likely to suffer in some way, and that to eat thus continuously *ter in die* is the only method of preserving health and strength.

As I have remarked before, one ordinarily should not eat until he has an appetite for food.

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A regular appetite is usually a symptom of a healthy state of the system. As soon as disorder occurs, the appetite flags. Nature, itself, stops the supplies, which only increase the embarrassment of the functions. This is frequently not understood, and the sick are too often tempted and pressed by anxious attendants to take nourishment—to their own harm and discomfort. Even then Nature asserts herself, the stomach rejecting what it does not desire. The instinctive desire for food, which is periodically and (in health) regularly experienced, is a real blessing, and its temperate enjoyment is a sign of a sound mind in a sound body. The sensation of hunger doubtless originates in the system at large, and its removal by the presence of food in the stomach must be due to the sympathetic connection of that organ with the system. All that is required for the immediate appeasement of hunger is, the presence of a substance (it may be of very small nourishing power), in the stomach. The unctuous earth consumed by the American Indian acts in this way. Taste has nothing to do in satisfying the appetite. It is a regrettable fact that, particularly among young men and, also, unfortunately, among those who have long passed the youthful stage, a want of appetite is frequently noticed. This, more often than not, proceeds from the senseless and injurious habit of taking frequent nips of so-called appetizers. Another cause of failure of appetite is the equally objectionable habit of smoking, particularly smoking before meals. If the youth of the present generation only realized what a store of misery and wretchedness they were laying up for themselves in their old age—if they ever attain old age—there would be less of this "nipping" and nicotine poisoning.

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Be careful not to overeat in the morning. Food enveloped in mucus can not be easily acted upon by the gastric secretions; fermentation ("sour stomach") is the result.

Many persons think that a faintness at the pit of the stomach in the morning is true hunger; so, they eat instead of drinking water, and, in a short time, have crippled digestion. The cause of this craving is probably due to a nervous irritation of the stomach glands, especially those concerned in the secretions. The secreting glands, in other words, are excited but can not relieve themselves.

(*To be Continued.*)

Among the Books

BROWN: "THE SYMPATHETIC NERVOUS SYSTEM IN DISEASE"

The Sympathetic Nervous System in Disease. By W. Langdon Brown, M.A., M.D., F.R.C.P. 161 pp. 9 illustrations. London: Oxford University Press. 1920. Price $4.25.

This book is based upon the Croonian Lectures delivered before the Royal College of Physicians at London in 1918. The author believes that the general practitioner has an exaggerated idea of the complexity of the general plant of the autonomic (or vegetative) nervous system. It is really simple, and a clear comprehension of it would aid in the elucidation of many clinical problems.

Therefore, these lectures are devoted to describing the relations between the autonomic system of nerves and certain groups of diseases, such as, affections of the endocrine glands, of the digestive and circulatory systems, and glycosuria. The close interaction of the endocrine glands with the sympathetic nervous system on the one hand and with the reproductive organs on the other, is a fact of paramount importance in the understanding of the emotional response of the sympathetic nervous system, and of the influence of emotion on structure. The author has made interesting a subject which, as usually treated, is dry enough.

THOMPSON: "SYPHILIS"

Syphilis, Diagnosis and Treatment. By Loyd Thompson, Ph. B., M.D., 81 Engravings and 7 plates. Second Edition. Thoroughly revised. 486 pp. Philadelphia and New York: Lea & Febiger. 1920. Price $7.00.

The advance in our knowledge of syphilis, in less than twenty years, has been one of the noteworthy phenomana in the history of medicine. It might even be a matter of opinion whether the x-ray in its influence on surgery has done more for the welfare of the race than have the Wassermann test and the intravenous use of arsenic for this worst of venereal diseases. The benefit of the x-ray is usually limited to the individual, while the improved methods of dealing with syphilis may mean life and health to generations unborn. This is true even though we must admit that arsenic has not supplanted mercury and that the Wassermann test is not infallible.

Because of these two epoch-making discoveries, the textbooks of a quarter-century ago are to a certain extent obsolete. The author of this book has given us a very complete and uptodate work on the subject. While no important details have been omitted, it is nevertheless concise and clear. The chapters on arsphenamine, and the Wassermann test naturally stand out most prominently; still, we have found much of interest in those on the history of syphilis, and in the author's answer to those old familiar questions: "Doctor, can I be cured?" and "Doctor, when can I safely marry?"

WILLIAMS: "PROTEOMORPHIC THEORY"

The Proteomorphic Theory and the New Medicine. By Henry Smith Williams, B. Sc., M. D., LL. D. 304 pp. Cloth. New York: The Goodhue Company, 1918.

It is a well known fact that any new method of treatment, claiming to be successful in cancer or any other serious pathological condition, is compelled to run a gauntlet of scepticism, misrepresentation, and even worse. This is not fair either to the cause of science or to the suffering public, for, if a cure for cancer is ever found, any unnecessary delay in bringing it into general use by physicians will mean unnecessary suffering and death among cancer victims. Who will be responsible for those unnecessary deaths? Clearly, those who, through bigotry, have put ob-

stacles in the way of the prompt adoption of the new system of treatment. We doubt whether this phase of the matter is considered as often as it should be.

This author claims to have discovered a new principle in physiology and to have successfully applied it in the treatment of several somewhat intractable diseases. If his system is based on a false foundation, it will die without being kicked to death: but, if it really is what he believes it to be, then we all have a responsibility in seeing that suffering humanity gets the benefit without unnecessary delay.

The present Reviewer has, for the past two years, been observing the results of the proteomorphic treatment whenever opportunity offered, more especially in cancer, rheumatism, and psoriasis. While the cases have been few in number, and while it is quite true that one swallow does not make an inebriate, the results have been so remarkable as to abundantly justify further observation and experiment.

The reader will probably inquire what is the proteomorphic theory and treatment? We will endeavor to answer the question briefly, with the caution that it is impossible to do justice to a new idea in a few words, and that those who feel an interest in the subject would do well to get their information at first hand from the book itself.

The author claims that three fundamental new discoveries are involved.

1.—A physiological discovery to the effect that (a) the mononuclear leucocytes are the agents vitally concerned in beginning hydrolysis, and (b) the red corpuscles are the agents concerned with the completion of decompounding of foreign proteins in the parenteral system.

2.—The therapeutic discovery, that foreign proteins and protein by-products, introduced parenterally into the system, constitute antigens that stimulate responsive activities of the organism of such character as to aid tremendously in the fight of the organism against the evil effect of other foreign proteins; from such sources as (a) pathogenic bacteria, (b) defective digestion, or assimilation, (c) hyperplasias including malignant neoplasms.

3.—The discovery that a single protein used therapeutically cannot usually produce optimum results, because the system becomes sated or immunized, and no longer gives a maximum response.

Briefly, as we understand it, the vegetable proteins derived from the seeds of such plants as alfalfa, millet, hemp, rape, etc., introduced hypodermically, reinforce the body antigens in their fight against the proteins of disease, aiding in their hydrolysis, and increasing both the red and white corpuscles.

We bespeak from the reader a careful investigation of this theory.

BYAM: "TRENCH FEVER"

Trench Fever, A Louse-Borne Disease. By Major W. Byam, R. A. M. C., and others. With an Introduction by Lieut.-General Sir T. H. Goodwin, K. C. B.; A Foreword by Major-General Sir David Bruce, K. C. B.; And a Summary of the Report of the American Trench Fever Commission by Lieut. R. H. Vercoe, R. A. M. C. London: Oxford University Press. 1919. Price $4.25.

This book, by Major Byam and his coworkers of the Royal Medical Corps, is a summary of the information gathered during and since the Great War on the subject of trench fever, mainly by the British War Office Trench-Fever Investigation Committee, and by the American Red Cross Research Committee on Trench Fever. This disease is not a new one; but, in 1914, it had not been classified as a distinct entity, and, even as late as March, 1918, its louse-born character had not been regarded as fully proven. On its first appearance on the Western Front, it was regarded by some as a form of malaria, and by others as a type of influenza. While no fatal cases of it had been recorded, it has, nevertheless, been responsible for a greater amount of sickness in the army than any other disease.

There seems to be no doubt that it was known in ancient and medieval times. Its description may be recognized in the writings of Galen and Hippocrates, as well as in those of Arabic writers, while an author known as Gilbert of England describes a similar fever recurring every five or six days.

Our interest in trench fever does not end with the closing of the war, as many of its victims are afflicted with the chronic form of the disease, and it is doubtful

whether some of them ever wholly recover —at least from the damage done to the system. A louse feeding upon such a patient may bite a healthy individual and thus transfer the malady. When we consider that, in spite of all precautions, the disbanding of the armies was pretty certain to have the result of spreading lice among the general populations of the countries engaged in the war, it will be seen that the development of new cases is by no means a remote possibility. While the organism of the fever has not been discovered, much has been accomplished in the way of treatment, and the authors give hearty recognition to the service rendered to humanity by those individuals who volunteered to allow themselves to be bitten by infected lice for the purpose of studying the disease. They risked their future health, and, so far as they knew at the time, their lives also, as it was not, then, known that the disease was not fatal.

This book is rendered more complete and, consequently, more valuable by a number of appendices detailing the experiments for the study of infection by blood transmission, louse bites, louse excreta, louse contact, by infected food, infection through the conjunctiva; also, the study of immunity, and the report in full of the American Red Cross Committee.

OSNATO: "APHASIA"

Aphasia and Associated Speech Problems. By Michael Osnato, M. D. Preface by Frederick Tilney, M. D., Ph. D. New York: Paul B. Hoeber. 1920. Price $2.50.

In regard to defects of speech, the average medical man feels himself more or less at sea, and the available literature on the subject is not extensive. Therefore, this book will be welcomed; the more so because it is clear, concise and readable, even to the lay reader. Not only the medical profession, but teachers, parents and public speakers may find here much to interest them and aid them in their work, whether dealing with defects that are congenital, hereditary, pathological, or associated with deafness.

Doctor Osnato's treatment of the subject is practical rather than theoretical, and he makes use freely of the case method in dealing with diagnosis and treatment. He holds that aphasia is mainly a defect of the intellect, and that the development of the mind is inseparable from the development of speech. His discussion of disturbances of speech arising from emotion or fatigue is especially interesting and instructive. The book is written in a style that is attractive and free from the dullness that characterizes so many scientific works. Those readers who desire to make further research in the literature of the subject, American as well as foreign, will be greatly aided by the very complete bibliography at the end of the volume.

KIDD: "COMMON INFECTIONS OF THE KIDNEYS"

Common Infections of the Kidneys with the Colon Bacillus and Allied Bacteria. Based on a Course of Lectures Delivered at the London Hospital. By Frank Kidd, M. B., B. C. With an Additional Lecture on the Bacteriology of the Urine by Dr. Philip Panton. London: Oxford University Press. 1920.

Here is a small handy book on a subject that very frequently causes trouble to the general practitioner. The text is divided into two parts, practice and theory. The Reviewer believes that the placing of the theoretical portion *after* the practical is a splendid arrangement.

When the author declares, in his introduction, that "bacteria are not *the* cause of bacterial infections", and that "bacteria are the *exciting* cause of bacterial infections", he touches upon a problem that has been the subject of more or less acrid discussion for decades. Needless to say, if an author makes such an assertion he must make good his contention, at least with some degree of verisimilitude. It is interesting to follow Doctor Kidd in his ratiocinations. For practical purposes, though, all we need to consider is, that bacteria are present in infections and that their unfavorable action must be combated. So, the practitioner can safely follow the practical advice of the author and leave his theoretical disquisitions for more leisurely study. This, however, should not be neglected either.

"INDIAN MEDICAL RECORD"

The December 1920 number of *Indian Medical Record* is devoted to the special consideration of the tuberculosis problems.

It contains some interesting information on the aspects of this problem as they apply in India and deals with various clinical and theoretical considerations.

ANDERS: "PRACTICE OF MEDICINE"

A Textbook of the Practice of Medicine. By James M. Anders, M. D., Ph. D., LL. D. Fourteenth Edition—With the Assistance of John H. Musser, Jr., B. S., M. D. Illustrated. Philadelphia: W. B. Saunders Company. 1920. Price $10.00.

A new edition of Anders' "Practice" always is welcome. For a book to have passed through fourteen editions and numerous reprints in the course of twenty-four years, is a record to be proud of and one that is fully merited in this instance.

It is interesting to note that typhoid fever, for instance, which is no longer the protean disease it once was, has received less attention than formerly. On the other hand, the description of numerous diseases that have gained importance has been properly amplified. Affections that were not dealt with in former editions but will be found discussed in the present one are: bronchial spirochetosis, streptococcic (hemolytic) pneumonia, trench nephritis, disordered action of the heart, chronic (syphilitic) aortitis, intestinal emphysema, epidemic encephalitis, oxycephaly, wood (methyl) alcohol poisoning, and botulism.

Anders' "Practice" offers excellent descriptions of diseases as to pathology, etiology, symptomatology and diagnosis. It is deservedly one of the constant reference books of the general practitioner.

WINSLOW: "HEALTHY LIVING"

Healthy Living. By Charles Edward Armory Winslow, D. P. H., Professor of Public Health, Yale Medical School. Book I. 248 pp. Price 84 cents. Book II. 405 pp. Price $1.12. Illustrated. New York and Chicago: Charles E. Merrill Company. 1920. Enlarged Edition.

These two books are designed for use in the schools but are equally valuable in the home. Book I is entitled: "How Children can Grow Strong for their Country's Service", and contains a chapter by Walter Camp on "Physical Exercises". It is adapted to the elementary grades and would prove attractive to any normal child old enough to read. The clear type, open page, and interesting illustrations, as well as the simple but scientific language, all tend to make a book readable by all young persons from 8 to 80 years of age. Dullness and "preaching" are absent; the latest scientific knowledge is presented in practical form.

Book II is entitled: "Principles of Personal and Community Hygiene", with a chapter by Walter Camp on "Sport and Health". It is adapted to the higher-grade students and forms a very complete guide-book on scientific hygiene for the youths of both sexes.

If we are ever to bring about a better condition of general health among the people, it will have to be mainly by educating the rising generation. The vast majority of adults know and care little about the art of keeping well. They indulge their appetites and passions and, then, when violated law demands the penalty, they appeal to the medical profession to do what is frequently impossible; namely, to help them escape the consequences of their own violation of the laws of health. Men who, in business affairs, are shrewd and quick to see what course of action will pay, are comparatively indifferent to the thing that pays best of all. Even from the financial view-point alone, nothing pays so well as health. It is only when loss of health forces itself upon the average man's attention that he really begins to take an interest in the subject; then, though, it is often too late. When he does wake up, he is liable to lay aside his usual business shrewdness: the man who in a financial matter would seek the counsel of the best legal talent to be had, is quite likely to entrust his most valued possession—his own health—to some of the numerous kinds of quacks that prey.

This unfortunate state of affairs would be largely prevented if the facts of intelligent hygiene were instilled into the mind at that time of life when it is most receptive and retentive, namely, during childhood and youth. If Professor Winslow's two little volumes could be put into the hands of every child in the land, their influence would be inestimable. One of the greatest dangers to the future of our Republic is, the flippancy and lack of sound, serious mental activity which characterizes the generation now in the formation stage of its character.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6564.—"Tic Douloureux." F. C. A., Ohio, writes:

"I want to use anesthesin as a local application in a case of tic douloureux of six years' standing. Two operations without relief. Kindly advise me in what form and strength to use the anesthesin. My idea was, to employ an ointment. Could you advise a more effective treatment?"

The term tic douloureux is usually ascribed to neuralgia of the fifth pair of cranial nerves, i. e., trifacial neuralgia. Tic douloureux is descriptive only when the pain is particularly severe and attends *spasm of the facial muscles.*

Unfortunately, neuralgia of the fifth pair is more frequent than all other forms combined, the nerve being particularly susceptible to functional and organic disorders as a result of the complexity of its structure and connections.

In the treatment of any case, improvement of the patient's general health must first be sought. For the relief of the acute pain, opium or its derivative are most effective, but aconite, coaltar remedies, acetylsalicylic acid and other analgesics may first be tried. The galvanic current seems valuable, and the cataphoretic administration of procaine, chloroform, aconite and other drugs sometimes causes complete and entire relief for hours. The continued hypodermic use of strychnine at the seat of the pain has given excellent results in preventing the return of the paroxysms.

Injections of osmic acid, 1 or 2-percent solution, into the nerve-trunks are said to relieve the pain at once. These can be made with local or general anesthesia. Personally, we object to such procedure as do we also (save in the most severe cases) to injections of alcohol. However, very excellent results have been reported by many competent clinicians from such deep injections of 70 to 90-percent alcohol. It is necessary, of course, that the operator be very sure of his technic.

We do not see how anesthesin could prove particularly serviceable, under the circumstances; but it might be combined with camphomenthol or some other ointment, and applied, preferably after hot Epsom-salt compresses have been in place for some time. After the inunction, heat should again be applied.

An ointment consisting of: oil of turpentine, mins. 8, oil of cloves, mins. 10, oil of mustard, mins. 4, guaiacol, grs. 4, camphor, grs. 20, capsicum oleoresin, grs. 5, menthol, grs. 16, in a special base to make oz. 1, is an excellent external application. It is unnecesary, we are sure, to call your attention to the absolute necessity of securing and maintaining thorough elimination. Thereafter, aconitine and gelseminine, pushed to physiologic effect, would probably prove most effective.

Neurolecithin and calcidin should be taken for several weeks and, during this period, the galvanic current may be applied with advantage. In some cases, a few minutes' application of the high-frequency current (vacuum electrode) has proven (temporarily) curative.

However, in obstinate forms of neuralgias, all medicinal treatment sometimes proves inefficacious and surgical procedure (dissection of the nerve or extirpation of the Gasserian ganglion) may have to be resorted to.

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QUERY 6565.—"Gonorrheal Vaginitis in Child of Nine." M., Ohio, asks "complete urinalysis of a specimen of urine sent from a little girl about 10 years old. She has been complaining of a smarting sensation

on passing urine for almost a year, off and on. The vulva and vagina are swollen and tender; parents tell me that there is at times quite a discharge, white and sometimes yellow. This child is from intelligent parents and the only child. If you have any suggestions as to treatment, would be thankful for them. Would you suspect gonorrhea?"

The laboratory report shows very many colon bacilli, together with a moderate amount of pus, some squamous epithelium and renal cells. Red blood corpuscles and albumin are absent. Uric acid output is normal and there are only traces of indican and skatol.

Under the circumstances, it is reasonable to assume that there is no disorder of the body chemistry, and that the irritation of the external genitalia, of which you speak, is not due to the character of the urine voided.

Vulvovaginitis in children of this age is not uncommon, but the main difficulty which confronts the practician is, to decide whether or no gonococci are present. If you can get this child's confidence, she may be able to clear up matters very promptly. On the other hand, even though gonococci are found in the discharge, the infection may have been acquired in any one of several ways, especialy if she is attending public school. We suggest that you secure a specimen of the discharge and forward for examination.

As you are aware, simple catarrhal vaginitis occurs especially in girls after the second year, particularly in children who are illy nourished and anemic and whose personal cleanliness is neglected. It may follow any of the infectious diseases, may be traumatic, as from attempted rape or the introduction of foreign bodies and, sometimes, as a result of masturbation. Another cause is pin-worms.

The disease generally begins as a subacute catarrhal inflammation; the discharge, in mild cases, being the only symptom. This is usually white or slightly yellow in color and not particularly abundant, but, if the parts are not kept clean, the odor of the discharge is foul. In more severe cases, the discharge is abundant and may excoriate the skin of the labia and thighs. The mucous membrane is swollen and microscopical examination shows bacteria in large numbers and of many varieties. Under proper treatment, the disease usually lasts from one to three weeks.

In gonococcus vaginitis, which is not as rare as one would think, especially in girls from six to twelve years of age, infection may have occurred by direct contact, manual or sexual, or sleeping with parents or relatives or other children, who have the disease. The mode of contagion may be difficult to trace, but this fact should cast no doubt upon the diagnosis.

In very young children, the disease is limited to the mucous membrane of the vagina. There is a moderate yellow discharge which the microscope shows to contain pus cells and gonococci. In some cases, the urethra is involved, causing frequent micturition. There may be a slight rise of temperature during the period of most acute inflammation. In severe cases, the discharge is copious and of a yellow or yellowish-green color; almost invariably it causes labial excoriation.

In girls past the age of six, the symptoms resemble those of the adult. There is copious secretion, formation of crusts, frequent painful micturition and some difficulty in locomotion; the child walking with a straddling gait. There may be slight fever and a general sense of distress. Swelling of the inguinal glands may take place.

A positive diagnosis between simple and gonococcus vaginitis can be made with certainty only by a thorough microscopical examination of the discharge. All cases of vaginitis are to be regarded as suspicious. If pus is found and few organisms are detected, subsequent examination will usually reveal the gonococcus and most writers agree that, in children who are not very carefully guarded, the gonococcus cases outnumber the simple form, ten to one.

Cases of simple vaginal catarrh call for frequent irrigations with a warm saturated solution of boric acid or ½-percent solution of chlorazene. Cleanliness should be secured by frequent bathing and the surrounding skin protected with borated petrolatum. Very rarely, indeed, are astringent injections called for and, still less often, the use of the silver salts. In gonococcus vaginitis, however, irrigations should be employed two or three times daily and we would use argyn in 5 to 10-percent solution, argyrol, 5 to 25 percent, or protargol, 1 to 10 percent. If chlorazene is used, the parts should be very thoroughly dried

before the silver salts are applied. The closest attention to cleanliness is of course necessary. The course of the disease is invariably tedious and many weeks or months may be required for a cure. In some cases, the use of vaccines is indicated.

We suggest that you have the discharge examined at the earliest possible moment.

Later. "Just received your letter relative to the little girl whose urine I sent you for examination. I agree with you. I am very much inclined to think that she has chronic gonorrhea. Her father insisted on my having a test made for gonorrhea at first. He has read medicine to some extent. I treated his wife a year ago for gonorrhea, with the quartz light. I did not have any test made. These parents are intelligent people and among the best in society. She told me, of course, that she got it from him and I am inclined to think so. The child is quite a tiny little thing; had so many sick spells. I want to call your attention to the hymen; she simply has no hymen. One can see one or two inches up into the vagina, very red and raw in appearance. I do not see how I am to irrigate the bladder as the parts are so tender that she fights when you touch her. I cannot get any pus or secretion for you as there is none at present. When she gets down with some sickness for a few days, then there seems to be more or less yellow pus. There is chronic cystitis, as she complains of a burning sensation a part of the time only; same days scarcely any trouble. If you can find gonococci in the urine, it would confirm the diagnosis; so, I am sending another specimen of the urine. Tell me how you would irrigate."

In the second specimen, as you will notice, many large diplococci were found, probably due to gonorrhea. Taking all the facts into consideration, there is little question in our mind that this unfortunate child has been tampered with. A ten-year-old girl under normal conditions, has a hymen and the mere fact that none exists in this case and that it is possible to see "one or two inches up in the vagina" is prima-facie evidence that she has lost her virginity, in the true sense of the word.

When, in connection with this condition, we find a chronic gonorrhea, one is perfectly justified in reaching the conclusion that the infection is not the result of using towels, sitting on contaminated toilet-seats, and such accidents. The fact that you treated the mother of this child for gonorrhea must, of course, be borne in mind; but, even though she might have contracted the disease from her mother, that would not account for the conditions of the genitalia which you describe.

It has been the writer's misfortune to see a great many cases of this kind, and, some years ago, he came to the conclusion that the ten- or twelve-year-old girl of the large cities is just as apt to present typical gonorrhea as the adult. The question is, to find out just where and how it was contracted, and then, if possible, to impress upon the patient the undesirability of amusing herself along those particular lines. Doctors have been prone, in these cases, to blame some adult, whereas, nine times out of ten, it will be found that some older girl has initiated a smaller boy into the mysteries of nature and that this young gentleman has browsed around among his innocent playmates, with the result that half a dozen cases of gonorrhea will make their appearance within a few blocks.

There is little question but that the infection in this case was contracted some time ago, and it is equally certain that you will have a long and tedious fight on your hands. In order to obtain results, it is very necessary that you get down to the bottom of things and have the cooperation not only of the child but of the parents.

Irrigation, in these cases, is a very simple matter. A glass douche-tip should be used and the irrigator preferably be of glass also, suspended three or four feet above the patient. There are many methods of procedure, but the most simple and, we believe, the most efficacious, is that which has been followed by the writer:

The child is placed upon a douche-pan with limbs separated, and the vulva well cleansed with cotton-pledgets soaked with irrigating solution; then the tip of the irrigator is held at the mons veneris and the fluid allowed to run freely over and between the labia minora. Very gradually, the tip is advanced and the stream thrown directly onto the parts, at a distance of, say, one inch; then, when all secretions have been removed from about the clitoris, labia and urethra, the nozzle is introduced just within the vestibule, the force of the current being cut down by lowering the irrigator. In this way, the anterior inch

of the vagina is cleansed and then the nozzle may be carefully and gently introduced for that distance, the irrigator meanwhile being elevated slightly so as to increase the force of the flow. Such irrigation, properly done, morning and evening, will cause a disappearance of all symptoms in from three to five weeks, especially if a vulval pad is applied in the intervals. This should be changed frequently.

It is rarely necessary, in these cases, to inject the bladder; but, should such procedure be deemed advisable, it may be readily performed by introducing a small catheter, injecting the desired amount of fluid and allowing it to be expelled in the natural manner.

The female urethra can, of course, be irrigated easily by hydrostatic pressure, but the urethra of a small child is not always easy to find and the average patients object very strongly to catheterization, whereas, ordinary irrigation of the parts—even the vagina—does not, as a rule, cause distress.

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QUERY 6566.—"Two Diagnostic Problems." G. U., New York, asks for assistance in the diagnosis and treatment of these cases: No. 267, age 60, and No. 309, age 30.

"Both of these men," he writes, "have made repeated trips to the tropics with me and I have been in such continued and intimate contact with them that I feel that my perspective lacks the sharp perception requisite to good work. Have been obliged to prescribe for so many ephemeral conditions—some of which were quite serious, however—that I may carry into the present matters which should now be disregarded; for instance:

"The young man, who is not married, had, about ten years ago, quite a severe case of diabetes mellitus. He had, at that time, a red tongue, crossed and criss-crossed with deep cracks over the entire surface. For the past two years or more, he has developed an extremely acid condition of stomach, at times worse than others. Does not smoke or drink but eats everything very sweet—a hard person to control in eating; and drinks quantities, or takes soda mint tablets. Profuse perspiration if heated. Bromidrosis, staining clothes badly, fairly rotting them. Foul smell to clothes and person unless frequent baths. Height 6 feet, weight 170 to 180. Had dengue; but, under treatment, chills have become infrequent. Methylene blue shows in about three hours. Intestinal antiseptics, neutral cordial, etc., long continued, will partially heal the tongue; but the condition returns when he neglects them, as he usually does. He is a heavy eater, eating anything and everything he wants. Excreta foul, musty smell. Antiseptics fail to do the work in ordinary dosage. Urine usually more plentiful than at time of sample; sometimes has a bad odor.

"X-ray examination after bismuth showed a darkening near pylorus, sort of crooked wave, abnormal in comparison. Complains sometimes of soreness near that point. Medium dark complexion, some moth patches. Damp palms, rusts any bright steel he touches. Badly ulcerated tooth for some months, great swelling, chills, fever; now clearing up after repeated and long treatment. Ancestors usually live to about sixty or less—mostly pass out with kidney trouble—so it is said. The patient is a technical photographer, when not on exploring tours which are made mostly in tropical countries.

"Case No. 267. Well nourished, quite light eater, smokes eight to ten cigarettes daily. Has been a tremendous brain-worker, feels he is slowing up as memory fools him sometimes. Member of three professions—law, medicine, engineering; great for any scientific matter, delves into everything. Inventor of note. Fifteen years ago, would keep awake 50 to 60 hours while occupied with inventions. Brain now seems fagged; says he cannot keep track of his many inventions unless patents are at hand. Has sleepy spells when very tired or overworked. Has had much trouble and strain. Hands quite unsteady sometimes, can not draught as he used to. Indoor life, mostly, for thirty years; unless on exploring trips, which he likes and enjoys—they 'rest him.'

"Bowels irregular for many years. Weak heart action for many years, due to strain and worry. His disposition is serious and grave, he is always employed in some intellectual pursuit. Feels a dread of something or other that never happens. Has made and lost a great deal of money but won't believe that he is all in.

"Methylene blue may show up in three hours and may not for days; in the latter event, he feels sick until some diuretic

brings it partially through. Urine fairly plentiful if he drinks proper quantities of liquid. Did a four years' course at a medical school in nine months and, at that time, had urine examined. Was told 'he was burning up his brain.' Red sediment. Took wine with meals so as to eat more and, while using it, he did better work. Has not taken wine now for years. Urine very irritating because scant; makes urethra tender and passage painful. Will then start in and attend to matters. Arbutin, chimaphyllin, buchu, etc., calcalith and Seidlitz—then, things improve. Lo, he is well and again devoted to hours of overwork. Sleep has been so irregular that, sometimes, when he really needs sleep, he does not sleep well.

Long-lived ancestors, living 85 to 102 years. Father was 67 when this man was born. Feels much better if out-doors. Dengue for years. Chills now if wet and cold, but does not oppose the oldtime vigorous resistance to chills. Murdock's liquid food or bovinine seem to be great restoratives. Married, but rare sexual desire; never bothered him much. Seemed to burn all up with brain-work. When everything was right, he found great enjoyment and 'then again forgot all about it.'

"Height, 5 feet 7 inches. Weight now about 150 pounds. Has liver spots; also a flat, colorless skin trouble, which I diagnose as tinea versicolor—from $\frac{1}{16}$ to $\frac{1}{2}$ inch, somewhat raised, and spreading. Discrete, rarely itching. Thinks he caught it years ago from some underwear bought in a foreign country.

"When worried greatly, passes quantity of light-colored scentless urine; gravity subnormal. Can do much work easily, if in pleasant surroundings. When annoyed, he can do nothing; is very sensitive. I am not an astrologist; still, he was born in Cancer near the cusp of Gemini, and is a perfect specimen of that nativity with Scorpio rising—as the books give it. His case would almost make me say, with Festus to St. Paul, 'almost it persuades me' to be a devotee and believer in the stars."

We have tried conscientiously to form an intelligent idea of the condition of your two patients. Frankly, however, even with the data at our disposal, we find it extremely difficult to venture a diagnosis, though in the case of No. 309 (man, aged 30) we are inclined to believe that you have to deal with some infection, either of the prostate or the seminal vesicles. We do not know anything about this individual's past life, but you state that he is unmarried, quite a heavy eater, and "takes everything and anything he wants."

The urine in his case shows many spermatozoa, poor elimination and contains a few streptococci, many staphylococci and bacilli coli. Considering the fact that the excreta are foul and have a musty smell, which does not disappear under the administration of the sulphocarbolates, and that the perspiration is offensive, it is quite evident that we have also serious derangement of the body chemistry. Only careful and prolonged treatment is likely to prove beneficial.

We note that for months he had a badly ulcerated tooth, accompanied by chills, fever, etc. It seems to us that that tooth should have been extracted promptly and, even now, if you can find a focus of infection, whether it be oral or in the prostate or seminal vesicles, its correction will probably be followed by prompt disappearance of most of his symptoms.

Were we in charge of this man, we would go over him minutely and then back him up in a corner and make him understand that he must eat and live in a certain manner and do as he is told in every way for several months.

During this period, we would be inclined to give quinine hydroferrocyanide in rather full doses, frequent doses of blue mass and soda, followed by a saline, and some such combination as: pancreatin, gr. 1-2; papain, gr. 1-2, diastase, gr. 1-2, bilein, gr. 1-32, strychnine sulphate, gr. 1-128, ginger, gr. 1-4, charcoal, grs. 2 1-2, sodium bicarbonate, gr. 1, one an hour and another two hours after meals.

Frequent Epsom-salt sponge baths will probably control the bromidrosis, especially if you prohibit the ingestion of large quantities of meat and keep the patient on a milk, fruit and cereal diet. As a further procedure, wash out the lower bowel every second or third day with normal saline solution at body temperature and insist upon plenty of exercise in the open air.

Further than this, we cannot go without having a much clearer idea of underlying conditions. It is just possible, of course, that you have a duodenal ulcer. The soreness complained of near the duodenum may mean much or little, as may also the fact

that his perspiration "rusts bright steel." Old-fashioned writers insist that, under such circumstances, large doses of hydrochloric acid should be given, but we have never been able to see the rationale of such procedure.

The second patient does not, of course, present such a difficult problem but it is not an easy matter to say just what should be done in his case. We have here a man of sixty, who has burned the candle at both ends for many, many years, and who naturally is beginning to "slump." This slowing down is inevitable at some period and, while this gentleman's ancestors seem to have lived far beyond the allotted three score years and ten, it must be borne in mind that your patient was himself begotten by a man sixty-seven years of age, and it has been our experience that individuals under such circumstances are apt to have the intellectual highly developed, at the expense of the physical.

It is generally conceded that the most brilliant thinkers, especially along original lines, are born late in married life, that is to say, very young parents do not produce the most brilliant offspring, whereas men of from forty-five to fifty-five, mated to healthy women of from twenty-five to thirty-five, are apt to produce children of marked intellectuality and pronounced physical stamina. After the fifty-five period in the male and the age of thirty-five in the female, the physical condition of the offspring is not as satisfactory, though extreme brilliancy has been frequently observed.

Personally, we don't care whether an individual was born in Cancer, near the cusp of Gemini, in the full of the moon or in a rainstorm, but we do always like to know something about the heredity and invariably take into consideration the psychic element.

If you are going to put this man on his feet, you will have to make him understand that he cannot work as hard at sixty as he did twenty years ago. That he must exercise more in the open air, diet carefully and maintain thorough elimination—renal, dermal and intestinal.

Organotherapy might prove beneficial in this case, and it might be advisable to give some such combination as that recommended by Harrower, i. e., Adreno-Spermin Comp. In this formula, we have a fairly successful attempt to combine the dynamogenic principles of the gonads, adrenals and brain, with a small dose of thyroid; the glycerophosphate of calcium addition affording a neurotonic effect. If this combination were given for a somewhat prolonged period and, at the same time, suitable dietetic and hygienic measures instituted, we believe your friend would materially improve.

It is impossible for us, of course, to outline a regimen but, on general principles, it is probable that this patient will do best on small quantities of meat once a day, plenty of cereals, eggs, milk, salads and ripe fruits. The intestinal flora might be changed by the administration of yeast, one-half to one cake of the ordinary compressed yeast, with meals.

A morning saline or the occasional use of some such combination as: sodium sulphocarbolate, grs. 2 1-2, sodium sulphate, grs. 5, sodium bicarbonate, grs. 20, colchicine, gr. 1-500; juglandoid, gr. 1-6, xanthoxyloid, gr. 1-6, may be essential. Of course, while this is being taken the yeast should be discontinued.

IF spring came but once in a century, instead of once a year, or burst forth with the sound of an earthquake, and not in silence, what wonder and expectation there would be in all hearts to behold the miraculous change! But now the silent succession suggests nothing but necessity. To most men only the cessation of the miracle would be miraculous, and the perpetual exercise of God's power seems less wonderful than its withdrawal would be.—Longfellow.